SEQUENCE LISTING

<110> STOCKER, PENNY J.
     STEIMEL-CRESPI, DOROTHY T.
     CRESPI, CHARLES L.

<120> P-GLYCOPROTEINS AND USES THEREOF

<130> G00307.70020.US

<140> US 10/619,359
<141> 2003-07-14

<150> US 60/156,921
<151> 1999-09-28

<150> US 60/158,818
<151> 1999-10-12

<150> US 09/672,810
<151> 2000-09-28

<160> 18

<170> FastSEQ for Windows Version 3.0

<210> 1
<211> 4186
<212> DNA
<213> Macaca fascicularis

<220>
<221> CDS
<222> (100)...(3940)

<400> 1
ggccgctgtt cgtttccgct aggtctttcc actaaagtcg gagtatcttc ttccaaaatt   60
tcacgacttg gtggccgttc caaggagcgc gaggtcgggg atg gat ctt gaa ggg   114
                                                Met Asp Leu Glu Gly
                                                 1   5

gac cgc aat gga gga gca gag aag aag aac ttt ttt aaa ctg aac aat   162
Asp Arg Asn Gly Gly Ala Glu Lys Lys Asn Phe Phe Lys Leu Asn Asn
            10   15   20

aaa agt aaa aaa gat aag aag gaa agg aaa cca act gtc agt gta ttt   210
Lys Ser Lys Lys Asp Lys Lys Glu Arg Lys Pro Thr Val Ser Val Phe
        25   30   35

tca atg ttt cgc tat tca aat tgg ctt gac aag ttg tat atg gtg gtg   258
Ser Met Phe Arg Tyr Ser Asn Trp Leu Asp Lys Leu Tyr Met Val Val
        40   45   50

gga act ttg gct gcc atc atc cat gga gct gga ctt cct ctc atg atg   306

```
                Gly Thr Leu Ala Ala Ile Ile His Gly Ala Gly Leu Pro Leu Met Met
                     55                  60                  65


        5       ctg gtg ttt gga gac atg acg gat acc ttt gca aat gca gga aat tta        354
                Leu Val Phe Gly Asp Met Thr Asp Thr Phe Ala Asn Ala Gly Asn Leu
                     70                  75                  80                  85


                gga gat tta gga gct ctg ttg act aat agc agt aat atc act gat aca        402
                Gly Asp Leu Gly Ala Leu Leu Thr Asn Ser Ser Asn Ile Thr Asp Thr
        10                       90                  95                 100


                gtg ccc gtc atg aat ctg gag gaa gat atg acc agg tat gcc tat tat        450
                Val Pro Val Met Asn Leu Glu Glu Asp Met Thr Arg Tyr Ala Tyr Tyr
                                105                 110                 115

        15
                tac agt gga att ggt gct ggg gtg ctg gtt gct gct tac att cag gtt        498
                Tyr Ser Gly Ile Gly Ala Gly Val Leu Val Ala Ala Tyr Ile Gln Val
                            120                 125                 130


        20      tca ttt tgg tgc ctg gca gct gga aga caa ata cac aaa att aga aaa        546
                Ser Phe Trp Cys Leu Ala Ala Gly Arg Gln Ile His Lys Ile Arg Lys
                        135                 140                 145


                cag ttt ttt cat gct ata atg cga cag gag ata ggc tgg ttt gat gtg        594
        25      Gln Phe Phe His Ala Ile Met Arg Gln Glu Ile Gly Trp Phe Asp Val
                150                 155                 160                 165


                cac gat gtt ggg gag ctt aac acc cgg ctt aca gat gat gtc tcc aag        642
                His Asp Val Gly Glu Leu Asn Thr Arg Leu Thr Asp Asp Val Ser Lys
        30                       170                 175                 180


                att aat gaa gga att ggt gac aaa att gga atg ttc ttt cag tca atg        690
                Ile Asn Glu Gly Ile Gly Asp Lys Ile Gly Met Phe Phe Gln Ser Met
                                185                 190                 195

        35
                gca aca ttt ttc act ggg ttt ata gta gga ttt aca cgt ggt tgg aag        738
                Ala Thr Phe Phe Thr Gly Phe Ile Val Gly Phe Thr Arg Gly Trp Lys
                            200                 205                 210


        40      cta acc ctt gtg att ttg gcc atc agt cct gtt ctt gga ctg tca gct        786
                Leu Thr Leu Val Ile Leu Ala Ile Ser Pro Val Leu Gly Leu Ser Ala
                        215                 220                 225


                gca gtc tgg gca aag ata ctg tct tca ttt act gat aaa gaa ctc tta        834
        45      Ala Val Trp Ala Lys Ile Leu Ser Ser Phe Thr Asp Lys Glu Leu Leu
                230                 235                 240                 245


                gct tat gca aaa gct gga gca gta gct gaa gag gtc ttg gca gca att        882
                Ala Tyr Ala Lys Ala Gly Ala Val Ala Glu Glu Val Leu Ala Ala Ile
        50                      250                 255                 260


                aga act gtg att gca ttt gga gga caa aag aaa gaa ctc gaa agg tac        930
                Arg Thr Val Ile Ala Phe Gly Gly Gln Lys Lys Glu Leu Glu Arg Tyr
                            265               ·   270                 275

        55
                aac aaa aat tta gaa gaa gct aaa aga att ggg ata aag aaa gct att        978
                Asn Lys Asn Leu Glu Glu Ala Lys Arg Ile Gly Ile Lys Lys Ala Ile
```

```
      aca gcc aat att tct ata ggt gct gct ttc ctg ctt atc tat gca tct      1026
      Thr Ala Asn Ile Ser Ile Gly Ala Ala Phe Leu Leu Ile Tyr Ala Ser
 5        295                 300                 305

      tat gct ctg gcc ttc tgg tat ggg acc acc ttg gtc ctc tca aag gaa      1074
      Tyr Ala Leu Ala Phe Trp Tyr Gly Thr Thr Leu Val Leu Ser Lys Glu
      310                 315                 320                 325
10
      tat tct att gga caa gta ctc act gta ttc ttt tct gta tta att ggg      1122
      Tyr Ser Ile Gly Gln Val Leu Thr Val Phe Phe Ser Val Leu Ile Gly
                      330                 335                 340

15    gct ttt agt gtt gga cag gca tct cca agc att gaa gca ttt gca aat      1170
      Ala Phe Ser Val Gly Gln Ala Ser Pro Ser Ile Glu Ala Phe Ala Asn
                  345                 350                 355

      gca aga gga gca gct ttt gaa atc ttc aag ata att gat aat aag cca      1218
      Ala Arg Gly Ala Ala Phe Glu Ile Phe Lys Ile Ile Asp Asn Lys Pro
20                360                 365                 370

      agt att gac agc tat tcg aag agt ggg cac aaa cca gat aat att aag      1266
      Ser Ile Asp Ser Tyr Ser Lys Ser Gly His Lys Pro Asp Asn Ile Lys
25        375                 380                 385

      gga aat ttg gaa ttc aga aat gtt cac ttc agt tac cca tct cga aaa      1314
      Gly Asn Leu Glu Phe Arg Asn Val His Phe Ser Tyr Pro Ser Arg Lys
      390                 395                 400                 405
30
      gaa gtt aag atc ttg aag ggc ctg aac ctg aag gtg cag agt ggg cag      1362
      Glu Val Lys Ile Leu Lys Gly Leu Asn Leu Lys Val Gln Ser Gly Gln
                      410                 415                 420

35    acg gtg gcc ctg gtt gga aac agc ggc tgt ggg aag agc aca acg gtc      1410
      Thr Val Ala Leu Val Gly Asn Ser Gly Cys Gly Lys Ser Thr Thr Val
                  425                 430                 435

      cag ctg atg cag agg ctt tat gac ccc aca gag ggc atg gtc agt gtt      1458
      Gln Leu Met Gln Arg Leu Tyr Asp Pro Thr Glu Gly Met Val Ser Val
40                440                 445                 450

      gat gga cag gat att agg acc ata aac gta agg ttt cta cgg gaa atc      1506
      Asp Gly Gln Asp Ile Arg Thr Ile Asn Val Arg Phe Leu Arg Glu Ile
45        455                 460                 465

      atc ggt gtg gtg agt cag gaa cct gta ttg ttt gcc acc acg ata gct      1554
      Ile Gly Val Val Ser Gln Glu Pro Val Leu Phe Ala Thr Thr Ile Ala
      470                 475                 480                 485
50
      gaa aac att cgc tat ggt cgt gaa gat gtc acc atg gat gag att gag      1602
      Glu Asn Ile Arg Tyr Gly Arg Glu Asp Val Thr Met Asp Glu Ile Glu
                      490                 495                 500

55    aaa gct gtc aag gaa gcc aat gcc tat gac ttt atc atg aaa ctg cct      1650
      Lys Ala Val Lys Glu Ala Asn Ala Tyr Asp Phe Ile Met Lys Leu Pro
                  505                 510                 515
```

cag aaa ttt gac acc ctg gtt gga gag aga ggg gcc cag ctg agt ggt   1698
Gln Lys Phe Asp Thr Leu Val Gly Glu Arg Gly Ala Gln Leu Ser Gly
        520   525   530

ggg cag aag cag agg atc gcc att gca cgt gcc ctg gtt cgc aac ccc   1746
Gly Gln Lys Gln Arg Ile Ala Ile Ala Arg Ala Leu Val Arg Asn Pro
        535   540   545

aag atc ctc ctg ctg gac gag gcc acg tca gcc ttg gac aca gaa agt   1794
Lys Ile Leu Leu Leu Asp Glu Ala Thr Ser Ala Leu Asp Thr Glu Ser
550   555   560   565

gaa gca gtg gtt cag gtg gct ctg gat aag gcc aga aaa ggt cgg acc   1842
Glu Ala Val Val Gln Val Ala Leu Asp Lys Ala Arg Lys Gly Arg Thr
                570   575   580

acc att gtg ata gct cat cgt ttg tct acg gtt cgt aat gcc gac gtc   1890
Thr Ile Val Ile Ala His Arg Leu Ser Thr Val Arg Asn Ala Asp Val
                585   590   595

atc gct ggt ttc gat gat gga gtc att gtg gag aaa gga aat cat gat   1938
Ile Ala Gly Phe Asp Asp Gly Val Ile Val Glu Lys Gly Asn His Asp
            600   605   610

gag ctc atg aaa gag aaa ggc att tac ttc aaa ctt gtc aca atg cag   1986
Glu Leu Met Lys Glu Lys Gly Ile Tyr Phe Lys Leu Val Thr Met Gln
        615   620   625

aca gca gga aat gaa att gaa tta gaa aat gca gct gat gaa tcc aaa   2034
Thr Ala Gly Asn Glu Ile Glu Leu Glu Asn Ala Ala Asp Glu Ser Lys
630   635   640   645

agt gaa att gat acc ttg gaa atg tct tca cat gat tca gga tcc agt   2082
Ser Glu Ile Asp Thr Leu Glu Met Ser Ser His Asp Ser Gly Ser Ser
                650   655   660

cta ata aga aaa aga tcc act cgt agg agt gtc cgt gga tca caa ggc   2130
Leu Ile Arg Lys Arg Ser Thr Arg Arg Ser Val Arg Gly Ser Gln Gly
                665   670   675

caa gac aga aag ctt agt acc aaa gag gct ctg gat gaa agt ata cct   2178
Gln Asp Arg Lys Leu Ser Thr Lys Glu Ala Leu Asp Glu Ser Ile Pro
            680   685   690

cca gtt tcc ttt tgg agg att atg aag cta aat tta act gag tgg cct   2226
Pro Val Ser Phe Trp Arg Ile Met Lys Leu Asn Leu Thr Glu Trp Pro
        695   700   705

tat ttt gtt gtt ggt gta ttt tgt gcc att ata aat gga ggt ctg caa   2274
Tyr Phe Val Val Gly Val Phe Cys Ala Ile Ile Asn Gly Gly Leu Gln
710   715   720   725

cca gca ttt gca gta ata ttt tca aag att ata ggg att ttt aca aga   2322
Pro Ala Phe Ala Val Ile Phe Ser Lys Ile Ile Gly Ile Phe Thr Arg
                730   735   740

```
aat gat gat gcc gaa aca aaa cga cag aat agt aac ttg ttt tca cta          2370
Asn Asp Asp Ala Glu Thr Lys Arg Gln Asn Ser Asn Leu Phe Ser Leu
            745                     750                 755

ttg ttt cta gtc ctt gga att gtt tct ttt att aca ttt ttc ctt cag          2418
Leu Phe Leu Val Leu Gly Ile Val Ser Phe Ile Thr Phe Phe Leu Gln
            760                     765                 770

ggc ttc aca ttt ggc aaa gct gga gag atc ctc acc aag cgg ctc cga          2466
Gly Phe Thr Phe Gly Lys Ala Gly Glu Ile Leu Thr Lys Arg Leu Arg
            775                     780                 785

tac atg gtt ttc cga tcc atg ctc aga cag gat gtg agc tgg ttt gat          2514
Tyr Met Val Phe Arg Ser Met Leu Arg Gln Asp Val Ser Trp Phe Asp
790                     795                 800                 805

gac cct aaa aac acc act gga gca ttg act acc agg ctc gcc aat gat          2562
Asp Pro Lys Asn Thr Thr Gly Ala Leu Thr Thr Arg Leu Ala Asn Asp
            810                     815                 820

gct gct caa gtt aaa ggg gct ata ggt tcc agg ctt gct ata att acc          2610
Ala Ala Gln Val Lys Gly Ala Ile Gly Ser Arg Leu Ala Ile Ile Thr
            825                     830                 835

cag aat ata gca aat ctt ggg aca gga ata att ata tcc tta atc tat          2658
Gln Asn Ile Ala Asn Leu Gly Thr Gly Ile Ile Ile Ser Leu Ile Tyr
            840                     845                 850

ggt tgg caa ctg aca ctg tta ctc tta gca att gta ccc atc att gca          2706
Gly Trp Gln Leu Thr Leu Leu Leu Leu Ala Ile Val Pro Ile Ile Ala
            855                     860                 865

ata gca gga gtt gtt gaa atg aaa atg ttg tct gga caa gca ctg aaa          2754
Ile Ala Gly Val Val Glu Met Lys Met Leu Ser Gly Gln Ala Leu Lys
870                     875                 880                 885

gat aag aaa gaa cta gaa ggt gct ggg aag atc gct act gaa gca ata          2802
Asp Lys Lys Glu Leu Glu Gly Ala Gly Lys Ile Ala Thr Glu Ala Ile
                890                     895                 900

gaa aac ttc cga act gtt gtt tct ttg act cag gag cag aag ttt gaa          2850
Glu Asn Phe Arg Thr Val Val Ser Leu Thr Gln Glu Gln Lys Phe Glu
            905                     910                 915

cat atg tat gat cag agt ttg cag gta cca tac aga aac tct ttg agg          2898
His Met Tyr Asp Gln Ser Leu Gln Val Pro Tyr Arg Asn Ser Leu Arg
            920                     925                 930

aaa gca cac atc ttt gga atc acg ttt tcc ttc acg cag gca atg atg          2946
Lys Ala His Ile Phe Gly Ile Thr Phe Ser Phe Thr Gln Ala Met Met
            935                     940                 945

tat ttt tcc tat gct gga tgt ttc cgg ttt gga gcc tac ttg gtg gca          2994
Tyr Phe Ser Tyr Ala Gly Cys Phe Arg Phe Gly Ala Tyr Leu Val Ala
950                     955                 960                 965

cat agt ctc atg agc ttt gag gat gtt ctg tta gta ttt tca gct gtt          3042
```

```
              His Ser Leu Met Ser Phe Glu Asp Val Leu Leu Val Phe Ser Ala Val
                          970             975                 980

        gtc ttt ggt gcc atg gcc gtg ggg caa gtc agt tca ttt gct cct gac      3090
     5  Val Phe Gly Ala Met Ala Val Gly Gln Val Ser Ser Phe Ala Pro Asp
                        985                 990                 995

        tat gcc aaa gcc aaa gta tca gca gcc cac atc atc atg atc att gaa      3138
        Tyr Ala Lys Ala Lys Val Ser Ala Ala His Ile Ile Met Ile Ile Glu
    10           1000                1005                1010

        aaa acc cct ttg att gac agc tac agc aca gaa ggc cta aag ccg aac      3186
        Lys Thr Pro Leu Ile Asp Ser Tyr Ser Thr Glu Gly Leu Lys Pro Asn
             1015                1020                1025
    15
        aca ttg gaa gga aat gtc aca ttt aat gaa gtt gta ttc aac tat ccc      3234
        Thr Leu Glu Gly Asn Val Thr Phe Asn Glu Val Val Phe Asn Tyr Pro
        1030                1035                1040                1045

    20  acc cga ctg gac atc cca gtg ctt cag ggg ctg agc ctg gaa gtg aag      3282
        Thr Arg Leu Asp Ile Pro Val Leu Gln Gly Leu Ser Leu Glu Val Lys
                      1050                1055                1060

        aag ggc cag acg ctg gcc ctg gtg ggc agc agt ggc tgt ggg aag agc      3330
    25  Lys Gly Gln Thr Leu Ala Leu Val Gly Ser Ser Gly Cys Gly Lys Ser
                  1065                1070                1075

        acg gtg gtc cag ctc ctg gag cgg ttc tat gac ccc ttg gcg ggg aaa      3378
        Thr Val Val Gln Leu Leu Glu Arg Phe Tyr Asp Pro Leu Ala Gly Lys
    30          1080                1085                1090

        gtg ctg ctt gac ggc aaa gaa ata aag caa ctg aat gtt cag tgg ctc      3426
        Val Leu Leu Asp Gly Lys Glu Ile Lys Gln Leu Asn Val Gln Trp Leu
             1095                1100                1105
    35
        cga gca cac ctg ggc atc gtg tcc cag gag ccc atc ctg ttt gac tgc      3474
        Arg Ala His Leu Gly Ile Val Ser Gln Glu Pro Ile Leu Phe Asp Cys
        1110                1115                1120                1125

    40  agc att agt gag aac att gcc tat gga gac aac agc cgg gtg gtg tca      3522
        Ser Ile Ser Glu Asn Ile Ala Tyr Gly Asp Asn Ser Arg Val Val Ser
                      1130                1135                1140

        cag gaa gag atc gtg agg gca gcc aag gag gcc aat ata'cac gcc ttc      3570
    45  Gln Glu Glu Ile Val Arg Ala Ala Lys Glu Ala Asn Ile His Ala Phe
                  1145                1150                1155

        atc gag tca ctg cct aat aaa tat agc acc aga gta gga gac aaa gga      3618
        Ile Glu Ser Leu Pro Asn Lys Tyr Ser Thr Arg Val Gly Asp Lys Gly
    50           1160                1165                1170

        act cag ctc tct ggt ggc cag aaa caa cgc att gcc ata gct cgt gcc      3666
        Thr Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile Ala Arg Ala
             1175                1180                1185
    55
        ctt gtt aga cag cct cat att ttg ctt ttg gat gaa gcc aca tca gct      3714
        Leu Val Arg Gln Pro His Ile Leu Leu Leu Asp Glu Ala Thr Ser Ala
```

```
ctg gat aca gaa agt gaa aag gtt gtc caa gaa gcc ctg gac aaa gcc      3762
Leu Asp Thr Glu Ser Glu Lys Val Val Gln Glu Ala Leu Asp Lys Ala
             1210                     1215                  1220
```

```
aga gaa ggc cgt acc tgc att gtg att gct cac cgc ctg tcc acc atc      3810
Arg Glu Gly Arg Thr Cys Ile Val Ile Ala His Arg Leu Ser Thr Ile
         1225                     1230                 1235
```

```
cag aat gca gac tta ata gtg gtg ttt cag aat ggc aga gtc aag gag      3858
Gln Asn Ala Asp Leu Ile Val Val Phe Gln Asn Gly Arg Val Lys Glu
         1240                     1245                 1250
```

```
cac ggc aca cat cag cag ctg ctg gca cag aaa ggc atc tat ttt tca      3906
His Gly Thr His Gln Gln Leu Leu Ala Gln Lys Gly Ile Tyr Phe Ser
       1255                     1260                 1265
```

```
atg gtc agt gtc cag gct gga gca aag cgc cag t gaactgtgac            3950
Met Val Ser Val Gln Ala Gly Ala Lys Arg Gln
1270                     1275                 1280
```

```
tgtatgagat gttaaatatt ttttaatatt tgtgtttaaa tatggcattt attcaaagtt      4010
aaaaagcaag tacttataga attatgaaga gttatctgtt taacatttcc tcaaccaagt      4070
tcagagtctt cagcacactcg taattaaagg aagagagcga gagacatcat caagtggaga      4130
gaaataatgg tttaaattgc attataaatt ttataacaga gttaaagtag attttt          4186
```

```
        <210> 2
        <211> 1280
        <212> PRT
        <213> Macaca fascicularis

        <400> 2
Met Asp Leu Glu Gly Asp Arg Asn Gly Gly Ala Glu Lys Lys Asn Phe
1               5                   10                  15
Phe Lys Leu Asn Asn Lys Ser Lys Lys Asp Lys Lys Glu Arg Lys Pro
            20                  25                  30
Thr Val Ser Val Phe Ser Met Phe Arg Tyr Ser Asn Trp Leu Asp Lys
        35                  40                  45
Leu Tyr Met Val Val Gly Thr Leu Ala Ala Ile Ile His Gly Ala Gly
        50                  55                  60
Leu Pro Leu Met Met Leu Val Phe Gly Asp Met Thr Asp Thr Phe Ala
65                  70                  75                  80
Asn Ala Gly Asn Leu Gly Asp Leu Gly Ala Leu Leu Thr Asn Ser Ser
            85                  90                  95
Asn Ile Thr Asp Thr Val Pro Val Met Asn Leu Glu Glu Asp Met Thr
            100                 105                 110
Arg Tyr Ala Tyr Tyr Tyr Ser Gly Ile Gly Ala Gly Val Leu Val Ala
        115                 120                 125
Ala Tyr Ile Gln Val Ser Phe Trp Cys Leu Ala Ala Gly Arg Gln Ile
        130                 135                 140
His Lys Ile Arg Lys Gln Phe Phe His Ala Ile Met Arg Gln Glu Ile
145                 150                 155                 160
Gly Trp Phe Asp Val His Asp Val Gly Glu Leu Asn Thr Arg Leu Thr
            165                 170                 175
Asp Asp Val Ser Lys Ile Asn Glu Gly Ile Gly Asp Lys Ile Gly Met
            180                 185                 190
```

```
      Phe Phe Gln Ser Met Ala Thr Phe Phe Thr Gly Phe Ile Val Gly Phe
              195                     200                 205
      Thr Arg Gly Trp Lys Leu Thr Leu Val Ile Leu Ala Ile Ser Pro Val
              210                     215                 220
  5   Leu Gly Leu Ser Ala Ala Val Trp Ala Lys Ile Leu Ser Ser Phe Thr
      225                     230                 235                 240
      Asp Lys Glu Leu Leu Ala Tyr Ala Lys Ala Gly Ala Val Ala Glu Glu
                      245                 250                 255
      Val Leu Ala Ala Ile Arg Thr Val Ile Ala Phe Gly Gly Gln Lys Lys
 10           260                     265                 270
      Glu Leu Glu Arg Tyr Asn Lys Asn Leu Glu Glu Ala Lys Arg Ile Gly
              275                     280                 285
      Ile Lys Lys Ala Ile Thr Ala Asn Ile Ser Ile Gly Ala Ala Phe Leu
              290                     295                 300
 15   Leu Ile Tyr Ala Ser Tyr Ala Leu Ala Phe Trp Tyr Gly Thr Thr Leu
      305                     310                 315                 320
      Val Leu Ser Lys Glu Tyr Ser Ile Gly Gln Val Leu Thr Val Phe Phe
                      325                 330                 335
      Ser Val Leu Ile Gly Ala Phe Ser Val Gly Gln Ala Ser Pro Ser Ile
 20           340                     345                 350
      Glu Ala Phe Ala Asn Ala Arg Gly Ala Ala Phe Glu Ile Phe Lys Ile
              355                     360                 365
      Ile Asp Asn Lys Pro Ser Ile Asp Ser Tyr Ser Lys Ser Gly His Lys
              370                     375                 380
 25   Pro Asp Asn Ile Lys Gly Asn Leu Glu Phe Arg Asn Val His Phe Ser
      385                     390                 395                 400
      Tyr Pro Ser Arg Lys Glu Val Lys Ile Leu Lys Gly Leu Asn Leu Lys
                      405                 410                 415
      Val Gln Ser Gly Gln Thr Val Ala Leu Val Gly Asn Ser Gly Cys Gly
 30           420                     425                 430
      Lys Ser Thr Thr Val Gln Leu Met Gln Arg Leu Tyr Asp Pro Thr Glu
              435                     440                 445
      Gly Met Val Ser Val Asp Gly Gln Asp Ile Arg Thr Ile Asn Val Arg
              450                     455                 460
 35   Phe Leu Arg Glu Ile Ile Gly Val Val Ser Gln Glu Pro Val Leu Phe
      465                     470                 475                 480
      Ala Thr Thr Ile Ala Glu Asn Ile Arg Tyr Gly Arg Glu Asp Val Thr
                      485                 490                 495
      Met Asp Glu Ile Glu Lys Ala Val Lys Glu Ala Asn Ala Tyr Asp Phe
 40           500                     505                 510
      Ile Met Lys Leu Pro Gln Lys Phe Asp Thr Leu Val Gly Glu Arg Gly
              515                     520                 525
      Ala Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile Ala Arg Ala
              530                     535                 540
 45   Leu Val Arg Asn Pro Lys Ile Leu Leu Leu Asp Glu Ala Thr Ser Ala
      545                     550                 555                 560
      Leu Asp Thr Glu Ser Glu Ala Val Val Gln Val Ala Leu Asp Lys Ala
                      565                 570                 575
      Arg Lys Gly Arg Thr Thr Ile Val Ile Ala His Arg Leu Ser Thr Val
 50           580                     585                 590
      Arg Asn Ala Asp Val Ile Ala Gly Phe Asp Asp Gly Val Ile Val Glu
              595                     600                 605
      Lys Gly Asn His Asp Glu Leu Met Lys Glu Lys Gly Ile Tyr Phe Lys
              610                     615                 620
 55   Leu Val Thr Met Gln Thr Ala Gly Asn Glu Ile Glu Leu Glu Asn Ala
      625                     630                 635                 640
      Ala Asp Glu Ser Lys Ser Glu Ile Asp Thr Leu Glu Met Ser Ser His
```

```
                         645                    650                     655
        Asp Ser Gly Ser Ser Leu Ile Arg Lys Arg Ser Thr Arg Arg Ser Val
                     660                     665                     670
 5      Arg Gly Ser Gln Gly Gln Asp Arg Lys Leu Ser Thr Lys Glu Ala Leu
                     675                     680                     685
        Asp Glu Ser Ile Pro Pro Val Ser Phe Trp Arg Ile Met Lys Leu Asn
                 690                     695                     700
        Leu Thr Glu Trp Pro Tyr Phe Val Val Gly Val Phe Cys Ala Ile Ile
        705                     710                     715                     720
10      Asn Gly Gly Leu Gln Pro Ala Phe Ala Val Ile Phe Ser Lys Ile Ile
                             725                     730                     735
        Gly Ile Phe Thr Arg Asn Asp Asp Ala Glu Thr Lys Arg Gln Asn Ser
                     740                     745                     750
        Asn Leu Phe Ser Leu Leu Phe Leu Val Leu Gly Ile Val Ser Phe Ile
15                  755                     760                     765
        Thr Phe Phe Leu Gln Gly Phe Thr Phe Gly Lys Ala Gly Glu Ile Leu
                 770                     775                     780
        Thr Lys Arg Leu Arg Tyr Met Val Phe Arg Ser Met Leu Arg Gln Asp
        785                     790                     795                     800
20      Val Ser Trp Phe Asp Asp Pro Lys Asn Thr Thr Gly Ala Leu Thr Thr
                         805                     810                     815
        Arg Leu Ala Asn Asp Ala Ala Gln Val Lys Gly Ala Ile Gly Ser Arg
                     820                     825                     830
        Leu Ala Ile Ile Thr Gln Asn Ile Ala Asn Leu Gly Thr Gly Ile Ile
25                  835                     840                     845
        Ile Ser Leu Ile Tyr Gly Trp Gln Leu Thr Leu Leu Leu Leu Ala Ile
          850                     855                     860
        Val Pro Ile Ile Ala Ile Ala Gly Val Val Glu Met Lys Met Leu Ser
        865                     870                     875                     880
30      Gly Gln Ala Leu Lys Asp Lys Lys Glu Leu Glu Gly Ala Gly Lys Ile
                     885                     890                     895
        Ala Thr Glu Ala Ile Glu Asn Phe Arg Thr Val Val Ser Leu Thr Gln
                 900                     905                     910
        Glu Gln Lys Phe Glu His Met Tyr Asp Gln Ser Leu Gln Val Pro Tyr
35                  915                     920                     925
        Arg Asn Ser Leu Arg Lys Ala His Ile Phe Gly Ile Thr Phe Ser Phe
                 930                     935                     940
        Thr Gln Ala Met Met Tyr Phe Ser Tyr Ala Gly Cys Phe Arg Phe Gly
        945                     950                     955                     960
40      Ala Tyr Leu Val Ala His Ser Leu Met Ser Phe Glu Asp Val Leu Leu
                     965                     970                     975
        Val Phe Ser Ala Val Val Phe Gly Ala Met Ala Val Gly Gln Val Ser
                     980                     985                     990
        Ser Phe Ala Pro Asp Tyr Ala Lys Ala Lys Val Ser Ala Ala His Ile
45                  995                     1000                    1005
        Ile Met Ile Ile Glu Lys Thr Pro Leu Ile Asp Ser Tyr Ser Thr Glu
                 1010                    1015                    1020
        Gly Leu Lys Pro Asn Thr Leu Glu Gly Asn Val Thr Phe Asn Glu Val
        1025                    1030                    1035                    1040
50      Val Phe Asn Tyr Pro Thr Arg Leu Asp Ile Pro Val Leu Gln Gly Leu
                     1045                    1050                    1055
        Ser Leu Glu Val Lys Lys Gly Gln Thr Leu Ala Leu Val Gly Ser Ser
                     1060                    1065                    1070
        Gly Cys Gly Lys Ser Thr Val Val Gln Leu Leu Glu Arg Phe Tyr Asp
55                  1075                    1080                    1085
        Pro Leu Ala Gly Lys Val Leu Leu Asp Gly Lys Glu Ile Lys Gln Leu
                 1090                    1095                    1100
```

```
      Asn Val Gln Trp Leu Arg Ala His Leu Gly Ile Val Ser Gln Glu Pro
      1105                1110                1115                1120
      Ile Leu Phe Asp Cys Ser Ile Ser Glu Asn Ile Ala Tyr Gly Asp Asn
                          1125                1130                1135
  5   Ser Arg Val Val Ser Gln Glu Glu Ile Val Arg Ala Ala Lys Glu Ala
                      1140                1145                1150
      Asn Ile His Ala Phe Ile Glu Ser Leu Pro Asn Lys Tyr Ser Thr Arg
                  1155                1160                1165
      Val Gly Asp Lys Gly Thr Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile
 10       1170                1175                1180
      Ala Ile Ala Arg Ala Leu Val Arg Gln Pro His Ile Leu Leu Leu Asp
      1185                1190                1195                1200
      Glu Ala Thr Ser Ala Leu Asp Thr Glu Ser Glu Lys Val Val Gln Glu
                      1205                1210                1215
 15   Ala Leu Asp Lys Ala Arg Glu Gly Arg Thr Cys Ile Val Ile Ala His
                  1220                1225                1230
      Arg Leu Ser Thr Ile Gln Asn Ala Asp Leu Ile Val Val Phe Gln Asn
                  1235                1240                1245
      Gly Arg Val Lys Glu His Gly Thr His Gln Gln Leu Leu Ala Gln Lys
 20       1250                1255                1260
      Gly Ile Tyr Phe Ser Met Val Ser Val Gln Ala Gly Ala Lys Arg Gln
      1265                1270                1275                1280


          <210> 3
 25       <211> 4195
          <212> DNA
          <213> Macaca fascicularis

          <220>
 30       <221> CDS
          <222> (100)...(3949)

          <400> 3
      ggccgctgtt cgtttccgct aggtctttcc actaaagtcg gagtatcttc ttccaaaatt      60
 35   tcacgacttg gtggccgttc caaggagcgc gaggtcggg atg gat ctt gaa ggg     114
                                                   Met Asp Leu Glu Gly
                                                     1               5


      gac cgc aat gga gga gca gag aag aag aac ttt ttt aaa ctg aac aat    162
 40   Asp Arg Asn Gly Gly Ala Glu Lys Lys Asn Phe Phe Lys Leu Asn Asn
                          10                  15                  20


      aaa agt aaa aaa gat aag aag gaa agg aaa cca act gtc agt gta ttt    210
 45   Lys Ser Lys Lys Asp Lys Lys Glu Arg Lys Pro Thr Val Ser Val Phe
                          25                  30                  35


      tca atg ttt cgc tat tca aat tgg ctt gac aag ttg tat atg gtg gtg    258
      Ser Met Phe Arg Tyr Ser Asn Trp Leu Asp Lys Leu Tyr Met Val Val
                      40                  45                  50
 50
      gga act ttg gct gcc atc atc cat gga gct gga ctt cct ctc atg atg    306
      Gly Thr Leu Ala Ala Ile Ile His Gly Ala Gly Leu Pro Leu Met Met
              55                  60                  65


 55   ctg gtg ttt gga gac atg acg gat acc ttt gca aat gca gga aat tta    354
      Leu Val Phe Gly Asp Met Thr Asp Thr Phe Ala Asn Ala Gly Asn Leu
          70                  75                  80                  85
```

```
     gga gat tta gga gct ctg ttg ttt aac aac act aat agc agt aat atc        402
     Gly Asp Leu Gly Ala Leu Leu Phe Asn Asn Thr Asn Ser Ser Asn Ile
                          90              95                  100

     act gat aca gtg ccc gtc atg aat ctg gag gaa gat atg acc agg tat        450
     Thr Asp Thr Val Pro Val Met Asn Leu Glu Glu Asp Met Thr Arg Tyr
                     105                 110                 115

     gcc tat tat tac agt gga att ggt gct ggg gtg ctg gtt gct gct tac        498
     Ala Tyr Tyr Tyr Ser Gly Ile Gly Ala Gly Val Leu Val Ala Ala Tyr
                     120             125             130

     att cag gtt tca ttt tgg tgc ctg gca gct gga aga caa ata cac aaa        546
     Ile Gln Val Ser Phe Trp Cys Leu Ala Ala Gly Arg Gln Ile His Lys
             135             140             145

     att aga aaa cag ttt ttt cat gct ata atg cga cag gag ata ggc tgg        594
     Ile Arg Lys Gln Phe Phe His Ala Ile Met Arg Gln Glu Ile Gly Trp
     150             155             160                 165

     ttt gat gtg cac gat gtt ggg gag ctt aac acc cgg ctt aca gat gat        642
     Phe Asp Val His Asp Val Gly Glu Leu Asn Thr Arg Leu Thr Asp Asp
                     170             175             180

     gtc tcc aag att aat gaa gga att ggt gac aaa att gga atg ttc ttt        690
     Val Ser Lys Ile Asn Glu Gly Ile Gly Asp Lys Ile Gly Met Phe Phe
                 185             190             195

     cag tca atg gca aca ttt ttc act ggg ttt ata gta gga ttt aca cgt        738
     Gln Ser Met Ala Thr Phe Phe Thr Gly Phe Ile Val Gly Phe Thr Arg
             200             205             210

     ggt tgg aag cta acc ctt gtg att ttg gcc atc agt cct gtt ctt gga        786
     Gly Trp Lys Leu Thr Leu Val Ile Leu Ala Ile Ser Pro Val Leu Gly
             215             220             225

     ctg tca gct gca gtc tgg gca aag ata ctg tct tca ttt act gat aaa        834
     Leu Ser Ala Ala Val Trp Ala Lys Ile Leu Ser Ser Phe Thr Asp Lys
     230             235             240                 245

     gaa ctc tta gct tat gca aaa gct gga gca gta gct gaa gag gtc ttg        882
     Glu Leu Leu Ala Tyr Ala Lys Ala Gly Ala Val Ala Glu Glu Val Leu
                     250             255             260

     gca gca att aga act gtg att gca ttt gga gga caa aag aaa gaa ctc        930
     Ala Ala Ile Arg Thr Val Ile Ala Phe Gly Gly Gln Lys Lys Glu Leu
                     265             270             275

     gaa agg tac aac aaa aat tta gaa gaa gct aaa aga att ggg ata aag        978
     Glu Arg Tyr Asn Lys Asn Leu Glu Glu Ala Lys Arg Ile Gly Ile Lys
             280             285             290

     aaa gct att aca gcc aat att tct ata ggt gct gct ttc ctg ctt atc       1026
     Lys Ala Ile Thr Ala Asn Ile Ser Ile Gly Ala Ala Phe Leu Leu Ile
             295             300             305
```

```
    tat gca tct tat gct ctg gcc ttc tgg tat ggg acc acc ttg gtc ctc        1074
    Tyr Ala Ser Tyr Ala Leu Ala Phe Trp Tyr Gly Thr Thr Leu Val Leu
    310             315             320             325

    tca aag gaa tat tct att gga caa gta ctc act gta ttc ttt tct gta        1122
    Ser Lys Glu Tyr Ser Ile Gly Gln Val Leu Thr Val Phe Phe Ser Val
                    330             335             340

    tta att ggg gct ttt agt gtt gga cag gca tct cca agc att gaa gca        1170
    Leu Ile Gly Ala Phe Ser Val Gly Gln Ala Ser Pro Ser Ile Glu Ala
                    345             350             355

    ttt gca aat gca aga gga gca gct ttt gaa atc ttc aag ata att gat        1218
    Phe Ala Asn Ala Arg Gly Ala Ala Phe Glu Ile Phe Lys Ile Ile Asp
                360             365             370

    aat aag cca agt att gac agc tat tcg aag agt ggg cac aaa cca gat        1266
    Asn Lys Pro Ser Ile Asp Ser Tyr Ser Lys Ser Gly His Lys Pro Asp
            375             380             385

    aat att aag gga aat ttg gaa ttc aga aat gtt cac ttc agt tac cca        1314
    Asn Ile Lys Gly Asn Leu Glu Phe Arg Asn Val His Phe Ser Tyr Pro
    390             395             400             405

    tct cga aaa gaa gtt aag atc ttg aag ggc ctg aac ctg aag gtg cag        1362
    Ser Arg Lys Glu Val Lys Ile Leu Lys Gly Leu Asn Leu Lys Val Gln
                    410             415             420

    agt ggg cag acg gtg gcc ctg gtt gga aac agc ggc tgt ggg aag agc        1410
    Ser Gly Gln Thr Val Ala Leu Val Gly Asn Ser Gly Cys Gly Lys Ser
                    425             430             435

    aca acg gtc cag ctg atg cag agg ctt tat gac ccc aca gag ggc atg        1458
    Thr Thr Val Gln Leu Met Gln Arg Leu Tyr Asp Pro Thr Glu Gly Met
                440             445             450

    gtc agt gtt gat gga cag gat att agg acc ata aac gta agg ttt cta        1506
    Val Ser Val Asp Gly Gln Asp Ile Arg Thr Ile Asn Val Arg Phe Leu
            455             460             465

    cgg gaa atc atc ggt gtg gtg agt cag gaa cct gta ttg ttt gcc acc        1554
    Arg Glu Ile Ile Gly Val Val Ser Gln Glu Pro Val Leu Phe Ala Thr
    470             475             480             485

    acg ata gct gaa aac att cgc tat ggt cgt gaa gat gtc acc atg gat        1602
    Thr Ile Ala Glu Asn Ile Arg Tyr Gly Arg Glu Asp Val Thr Met Asp
                490             495             500

    gag att gag aaa gct gtc aag gaa gcc aat gcc tat gac ttt atc atg        1650
    Glu Ile Glu Lys Ala Val Lys Glu Ala Asn Ala Tyr Asp Phe Ile Met
                505             510             515

    aaa ctg cct cag aaa ttt gac acc ctg gtt gga gag aga ggg gcc cag        1698
    Lys Leu Pro Gln Lys Phe Asp Thr Leu Val Gly Glu Arg Gly Ala Gln
                520             525             530

    ctg agt ggt ggg cag aag cag agg atc gcc att gca cgt gcc ctg gtt        1746
```

```
        Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile Ala Arg Ala Leu Val
            535                 540                 545

     cgc aac ccc aag atc ctc ctg ctg gac gag gcc acg tca gcc ttg gac     1794
 5   Arg Asn Pro Lys Ile Leu Leu Leu Asp Glu Ala Thr Ser Ala Leu Asp
     550                 555                 560                 565

     aca gaa agt gaa gca gtg gtt cag gtg gct ctg gat aag gcc aga aaa     1842
     Thr Glu Ser Glu Ala Val Val Gln Val Ala Leu Asp Lys Ala Arg Lys
10                       570                 575                 580

     ggt cgg acc acc att gtg ata gct cat cgt ttg tct acg gtt cgt aat     1890
     Gly Arg Thr Thr Ile Val Ile Ala His Arg Leu Ser Thr Val Arg Asn
                         585                 590                 595
15

     gcc gac gtc atc gct ggt ttc gat gat gga gtc att gtg gag aaa gga     1938
     Ala Asp Val Ile Ala Gly Phe Asp Asp Gly Val Ile Val Glu Lys Gly
                     600                 605                 610

20   aat cat gat gag ctc atg aaa gag aaa ggc att tac ttc aaa ctt gtc     1986
     Asn His Asp Glu Leu Met Lys Glu Lys Gly Ile Tyr Phe Lys Leu Val
         615                 620                 625

     aca atg cag aca gca gga aat gaa att gaa tta gaa aat gca gct gat     2034
25   Thr Met Gln Thr Ala Gly Asn Glu Ile Glu Leu Glu Asn Ala Ala Asp
     630                 635                 640                 645

     gaa tcc aaa agt gaa att gat acc ttg gaa atg tct tca cat gat tca     2082
     Glu Ser Lys Ser Glu Ile Asp Thr Leu Glu Met Ser Ser His Asp Ser
30                       650                 655                 660

     gga tcc agt cta ata aga aaa aga tcc act cgt agg agt gtc cgt gga     2130
     Gly Ser Ser Leu Ile Arg Lys Arg Ser Thr Arg Arg Ser Val Arg Gly
                     665                 670                 675
35

     tca caa ggc caa gac aga aag ctt agt acc aaa gag gct ctg gat gaa     2178
     Ser Gln Gly Gln Asp Arg Lys Leu Ser Thr Lys Glu Ala Leu Asp Glu
                     680                 685                 690

40   agt ata cct cca gtt tcc ttt tgg agg att atg aag cta aat tta act     2226
     Ser Ile Pro Pro Val Ser Phe Trp Arg Ile Met Lys Leu Asn Leu Thr
         695                 700                 705

     gag tgg cct tat ttt gtt gtt ggt gta ttt tgt gcc att ata aat gga     2274
45   Glu Trp Pro Tyr Phe Val Val Gly Val Phe Cys Ala Ile Ile Asn Gly
     710                 715                 720                 725

     ggt ctg caa cca gca ttt gca gta ata ttt tca aag att ata ggg att     2322
     Gly Leu Gln Pro Ala Phe Ala Val Ile Phe Ser Lys Ile Ile Gly Ile
50                       730                 735                 740

     ttt aca aga aat gat gat gcc gaa aca aaa cga cag aat agt aac ttg     2370
     Phe Thr Arg Asn Asp Asp Ala Glu Thr Lys Arg Gln Asn Ser Asn Leu
                         745                 750                 755
55
     ttt tca cta ttg ttt cta gtc ctt gga att gtt tct ttt att aca ttt     2418
     Phe Ser Leu Leu Phe Leu Val Leu Gly Ile Val Ser Phe Ile Thr Phe
```

```
                760                 765                 770

     ttc ctt cag ggc ttc aca ttt ggc aaa gct gga gag atc ctc acc aag   2466
     Phe Leu Gln Gly Phe Thr Phe Gly Lys Ala Gly Glu Ile Leu Thr Lys
5        775             780             785

     cgg ctc cga tac atg gtt ttc cga tcc atg ctc aga cag gat gtg agc   2514
     Arg Leu Arg Tyr Met Val Phe Arg Ser Met Leu Arg Gln Asp Val Ser
     790             795             800             805
10
     tgg ttt gat gac cct aaa aac acc act gga gca ttg act acc agg ctc   2562
     Trp Phe Asp Asp Pro Lys Asn Thr Thr Gly Ala Leu Thr Thr Arg Leu
                     810             815             820

15   gcc aat gat gct gct caa gtt aaa ggg gct ata ggt tcc agg ctt gct   2610
     Ala Asn Asp Ala Ala Gln Val Lys Gly Ala Ile Gly Ser Arg Leu Ala
                 825             830             835

     ata att acc cag aat ata gca aat ctt ggg aca gga ata att ata tcc   2658
20   Ile Ile Thr Gln Asn Ile Ala Asn Leu Gly Thr Gly Ile Ile Ile Ser
                 840             845             850

     tta atc tat ggt tgg caa ctg aca ctg tta ctc tta gca att gta ccc   2706
     Leu Ile Tyr Gly Trp Gln Leu Thr Leu Leu Leu Ala Ile Val Pro
25       855             860             865

     atc att gca ata gca gga gtt gtt gaa atg aaa atg ttg tct gga caa   2754
     Ile Ile Ala Ile Ala Gly Val Val Glu Met Lys Met Leu Ser Gly Gln
     870             875             880             885
30
     gca ctg aaa gat aag aaa gaa cta gaa ggt gct ggg aag atc gct act   2802
     Ala Leu Lys Asp Lys Lys Glu Leu Glu Gly Ala Gly Lys Ile Ala Thr
                     890             895             900

35   gaa gca ata gaa aac ttc cga act gtt gtt tct ttg act cag gag cag   2850
     Glu Ala Ile Glu Asn Phe Arg Thr Val Val Ser Leu Thr Gln Glu Gln
                 905             910             915

     aag ttt gaa cat atg tat gat cag agt ttg cag gta cca tac aga aac   2898
40   Lys Phe Glu His Met Tyr Asp Gln Ser Leu Gln Val Pro Tyr Arg Asn
                 920             925             930

     tct ttg agg aaa gca cac atc ttt gga atc acg ttt tcc ttc acg cag   2946
     Ser Leu Arg Lys Ala His Ile Phe Gly Ile Thr Phe Ser Phe Thr Gln
45       935             940             945

     gca atg atg tat ttt tcc tat gct gga tgt ttc cgg ttt gga gcc tac   2994
     Ala Met Met Tyr Phe Ser Tyr Ala Gly Cys Phe Arg Phe Gly Ala Tyr
     950             955             960             965
50
     ttg gtg gca cat agt ctc atg agc ttt gag gat gtt ctg tta gta ttt   3042
     Leu Val Ala His Ser Leu Met Ser Phe Glu Asp Val Leu Leu Val Phe
                     970             975             980

55   tca gct gtt gtc ttt ggt gcc atg gcc gtg ggg caa gtc agt tca ttt   3090
     Ser Ala Val Val Phe Gly Ala Met Ala Val Gly Gln Val Ser Ser Phe
                 985             990             995
```

```
gct cct gac tat gcc aaa gcc aaa gta tca gca gcc cac atc atc atg        3138
Ala Pro Asp Tyr Ala Lys Ala Lys Val Ser Ala Ala His Ile Ile Met
        1000              1005                1010

atc att gaa aaa acc cct ttg att gac agc tac agc aca gaa ggc cta        3186
Ile Ile Glu Lys Thr Pro Leu Ile Asp Ser Tyr Ser Thr Glu Gly Leu
    1015              1020                1025

aag ccg aac aca ttg gaa gga aat gtc aca ttt aat gaa gtt gta ttc        3234
Lys Pro Asn Thr Leu Glu Gly Asn Val Thr Phe Asn Glu Val Val Phe
1030              1035                1040                1045

aac tat ccc acc cga ctg gac atc cca gtg ctt cag ggg ctg agc ctg        3282
Asn Tyr Pro Thr Arg Leu Asp Ile Pro Val Leu Gln Gly Leu Ser Leu
            1050                1055                1060

gaa gtg aag aag ggc cag acg ctg gcc ctg gtg ggc agc agt ggc tgt        3330
Glu Val Lys Lys Gly Gln Thr Leu Ala Leu Val Gly Ser Ser Gly Cys
            1065                1070                1075

ggg aag agc acg gtg gtc cag ctc ctg gag cgg ttc tat gac ccc ttg        3378
Gly Lys Ser Thr Val Val Gln Leu Leu Glu Arg Phe Tyr Asp Pro Leu
        1080              1085                1090

gcg ggg aaa gtg ctg ctt gac ggc aaa gaa ata aag caa ctg aat gtt        3426
Ala Gly Lys Val Leu Leu Asp Gly Lys Glu Ile Lys Gln Leu Asn Val
        1095              1100                1105

cag tgg ctc cga gca cac ctg ggc atc gtg tcc cag gag ccc atc ctg        3474
Gln Trp Leu Arg Ala His Leu Gly Ile Val Ser Gln Glu Pro Ile Leu
1110              1115                1120                1125

ttt gac tgc agc att agt gag aac att gcc tat gga gac aac agc cgg        3522
Phe Asp Cys Ser Ile Ser Glu Asn Ile Ala Tyr Gly Asp Asn Ser Arg
            1130                1135                1140

gtg gtg tca cag gaa gag atc gtg agg gca gcc aag gag gcc aat ata        3570
Val Val Ser Gln Glu Glu Ile Val Arg Ala Ala Lys Glu Ala Asn Ile
            1145                1150                1155

cac gcc ttc atc gag tca ctg cct aat aaa tat agc acc aga gta gga        3618
His Ala Phe Ile Glu Ser Leu Pro Asn Lys Tyr Ser Thr Arg Val Gly
        1160              1165                1170

gac aaa gga act cag ctc tct ggt ggc cag aaa caa cgc att gcc ata        3666
Asp Lys Gly Thr Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile
    1175              1180                1185

gct cgt gcc ctt gtt aga cag cct cat att ttg ctt ttg gat gaa gcc        3714
Ala Arg Ala Leu Val Arg Gln Pro His Ile Leu Leu Leu Asp Glu Ala
    1190              1195                1200                1205

aca tca gct ctg gat aca gaa agt gaa aag gtt gtc caa gaa gcc ctg        3762
Thr Ser Ala Leu Asp Thr Glu Ser Glu Lys Val Val Gln Glu Ala Leu
            1210                1215                1220
```

```
gac aaa gcc aga gaa ggc cgt acc tgc att gtg att gct cac cgc ctg        3810
Asp Lys Ala Arg Glu Gly Arg Thr Cys Ile Val Ile Ala His Arg Leu
        1225                    1230                1235
```

```
 5   tcc acc atc cag aat gca gac tta ata gtg gtg ttt cag aat ggc aga        3858
     Ser Thr Ile Gln Asn Ala Asp Leu Ile Val Val Phe Gln Asn Gly Arg
             1240                    1245                1250
```

```
10   gtc aag gag cac ggc aca cat cag cag ctg ctg gca cag aaa ggc atc        3906
     Val Lys Glu His Gly Thr His Gln Gln Leu Leu Ala Gln Lys Gly Ile
             1255                    1260                1265
```

```
     tat ttt tca atg gtc agt gtc cag gct gga gca aag cgc cag t             3949
     Tyr Phe Ser Met Val Ser Val Gln Ala Gly Ala Lys Arg Gln
15   1270                1275                1280
```

```
     gaactgtgac tgtatgagat gttaaatatt ttttaatatt tgtgtttaaa tatggcattt      4009
     attcaaagtt aaaaagcaag tacttataga attatgaaga gttatctgtt taacatttcc      4069
     tcaaccaagt tcagagtctt cagacactcg taattaaagg aagagagcga gagacatcat      4129
20   caagtggaga gaaataatgg tttaaattgc attataaatt ttataacaga gttaaagtag      4189
     attttt                                                                 4195
```

<210> 4
<211> 1283
25   <212> PRT
<213> Macaca fascicularis

<400> 4
     Met Asp Leu Glu Gly Asp Arg Asn Gly Gly Ala Glu Lys Lys Asn Phe
30   1   5   10   15
     Phe Lys Leu Asn Asn Lys Ser Lys Lys Asp Lys Lys Glu Arg Lys Pro
             20   25   30
     Thr Val Ser Val Phe Ser Met Phe Arg Tyr Ser Asn Trp Leu Asp Lys
             35   40   45
35   Leu Tyr Met Val Val Gly Thr Leu Ala Ala Ile Ile His Gly Ala Gly
             50   55   60
     Leu Pro Leu Met Met Leu Val Phe Gly Asp Met Thr Asp Thr Phe Ala
     65   70   75   80
     Asn Ala Gly Asn Leu Gly Asp Leu Gly Ala Leu Leu Phe Asn Asn Thr
40   85   90   95
     Asn Ser Ser Asn Ile Thr Asp Thr Val Pro Val Met Asn Leu Glu Glu
             100   105   110
     Asp Met Thr Arg Tyr Ala Tyr Tyr Tyr Ser Gly Ile Gly Ala Gly Val
             115   120   125
45   Leu Val Ala Ala Tyr Ile Gln Val Ser Phe Trp Cys Leu Ala Ala Gly
             130   135   140
     Arg Gln Ile His Lys Ile Arg Lys Gln Phe Phe His Ala Ile Met Arg
     145   150   155   160
     Gln Glu Ile Gly Trp Phe Asp Val His Asp Val Gly Glu Leu Asn Thr
50   165   170   175
     Arg Leu Thr Asp Asp Val Ser Lys Ile Asn Glu Gly Ile Gly Asp Lys
             180   185   190
     Ile Gly Met Phe Phe Gln Ser Met Ala Thr Phe Phe Thr Gly Phe Ile
             195   200   205
55   Val Gly Phe Thr Arg Gly Trp Lys Leu Thr Leu Val Ile Leu Ala Ile
             210   215   220
     Ser Pro Val Leu Gly Leu Ser Ala Ala Val Trp Ala Lys Ile Leu Ser
```

```
            225                   230                   235                   240
      Ser Phe Thr Asp Lys Glu Leu Leu Ala Tyr Ala Lys Ala Gly Ala Val
                      245                   250                   255
      Ala Glu Glu Val Leu Ala Ala Ile Arg Thr Val Ile Ala Phe Gly Gly
   5                260                   265                   270
      Gln Lys Lys Glu Leu Glu Arg Tyr Asn Lys Asn Leu Glu Glu Ala Lys
                  275                   280                   285
      Arg Ile Gly Ile Lys Lys Ala Ile Thr Ala Asn Ile Ser Ile Gly Ala
                  290                   295                   300
  10  Ala Phe Leu Leu Ile Tyr Ala Ser Tyr Ala Leu Ala Phe Trp Tyr Gly
      305                   310                   315                   320
      Thr Thr Leu Val Leu Ser Lys Glu Tyr Ser Ile Gly Gln Val Leu Thr
                      325                   330                   335
      Val Phe Phe Ser Val Leu Ile Gly Ala Phe Ser Val Gly Gln Ala Ser
  15                340                   345                   350
      Pro Ser Ile Glu Ala Phe Ala Asn Ala Arg Gly Ala Ala Phe Glu Ile
                  355                   360                   365
      Phe Lys Ile Ile Asp Asn Lys Pro Ser Ile Asp Ser Tyr Ser Lys Ser
                  370                   375                   380
  20  Gly His Lys Pro Asp Asn Ile Lys Gly Asn Leu Glu Phe Arg Asn Val
      385                   390                   395                   400
      His Phe Ser Tyr Pro Ser Arg Lys Glu Val Lys Ile Leu Lys Gly Leu
                      405                   410                   415
      Asn Leu Lys Val Gln Ser Gly Gln Thr Val Ala Leu Val Gly Asn Ser
  25                420                   425                   430
      Gly Cys Gly Lys Ser Thr Thr Val Gln Leu Met Gln Arg Leu Tyr Asp
                      435                   440                   445
      Pro Thr Glu Gly Met Val Ser Val Asp Gly Gln Asp Ile Arg Thr Ile
                  450                   455                   460
  30  Asn Val Arg Phe Leu Arg Glu Ile Ile Gly Val Val Ser Gln Glu Pro
      465                   470                   475                   480
      Val Leu Phe Ala Thr Thr Ile Ala Glu Asn Ile Arg Tyr Gly Arg Glu
                  485                   490                   495
      Asp Val Thr Met Asp Glu Ile Glu Lys Ala Val Lys Glu Ala Asn Ala
  35                500                   505                   510
      Tyr Asp Phe Ile Met Lys Leu Pro Gln Lys Phe Asp Thr Leu Val Gly
                  515                   520                   525
      Glu Arg Gly Ala Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile
                  530                   535                   540
  40  Ala Arg Ala Leu Val Arg Asn Pro Lys Ile Leu Leu Leu Asp Glu Ala
      545                   550                   555                   560
      Thr Ser Ala Leu Asp Thr Glu Ser Glu Ala Val Val Gln Val Ala Leu
                  565                   570                   575
      Asp Lys Ala Arg Lys Gly Arg Thr Thr Ile Val Ile Ala His Arg Leu
  45                580                   585                   590
      Ser Thr Val Arg Asn Ala Asp Val Ile Ala Gly Phe Asp Asp Gly Val
                  595                   600                   605
      Ile Val Glu Lys Gly Asn His Asp Glu Leu Met Lys Glu Lys Gly Ile
                  610                   615                   620
  50  Tyr Phe Lys Leu Val Thr Met Gln Thr Ala Gly Asn Glu Ile Glu Leu
      625                   630                   635                   640
      Glu Asn Ala Ala Asp Glu Ser Lys Ser Glu Ile Asp Thr Leu Glu Met
                  645                   650                   655
      Ser Ser His Asp Ser Gly Ser Ser Leu Ile Arg Lys Arg Ser Thr Arg
  55                660                   665                   670
      Arg Ser Val Arg Gly Ser Gln Gly Gln Asp Arg Lys Leu Ser Thr Lys
                  675                   680                   685
```

```
     Glu Ala Leu Asp Glu Ser Ile Pro Pro Val Ser Phe Trp Arg Ile Met
         690                 695             700
     Lys Leu Asn Leu Thr Glu Trp Pro Tyr Phe Val Val Gly Val Phe Cys
     705                 710             715                 720
 5   Ala Ile Ile Asn Gly Gly Leu Gln Pro Ala Phe Ala Val Ile Phe Ser
                     725             730                 735
     Lys Ile Ile Gly Ile Phe Thr Arg Asn Asp Asp Ala Glu Thr Lys Arg
                 740             745             750
     Gln Asn Ser Asn Leu Phe Ser Leu Leu Phe Leu Val Leu Gly Ile Val
10       755                 760             765
     Ser Phe Ile Thr Phe Phe Leu Gln Gly Phe Thr Phe Gly Lys Ala Gly
         770                 775             780
     Glu Ile Leu Thr Lys Arg Leu Arg Tyr Met Val Phe Arg Ser Met Leu
     785             790             795                 800
15   Arg Gln Asp Val Ser Trp Phe Asp Asp Pro Lys Asn Thr Thr Gly Ala
                     805             810             815
     Leu Thr Thr Arg Leu Ala Asn Asp Ala Ala Gln Val Lys Gly Ala Ile
                 820             825             830
     Gly Ser Arg Leu Ala Ile Ile Thr Gln Asn Ile Ala Asn Leu Gly Thr
20       835             840             845
     Gly Ile Ile Ile Ser Leu Ile Tyr Gly Trp Gln Leu Thr Leu Leu Leu
         850             855             860
     Leu Ala Ile Val Pro Ile Ile Ala Ile Ala Gly Val Val Glu Met Lys
     865             870             875                 880
25   Met Leu Ser Gly Gln Ala Leu Lys Asp Lys Lys Glu Leu Glu Gly Ala
                     885             890             895
     Gly Lys Ile Ala Thr Glu Ala Ile Glu Asn Phe Arg Thr Val Val Ser
                 900             905             910
     Leu Thr Gln Glu Gln Lys Phe Glu His Met Tyr Asp Gln Ser Leu Gln
30       915             920             925
     Val Pro Tyr Arg Asn Ser Leu Arg Lys Ala His Ile Phe Gly Ile Thr
         930             935             940
     Phe Ser Phe Thr Gln Ala Met Met Tyr Phe Ser Tyr Ala Gly Cys Phe
     945             950             955                 960
35   Arg Phe Gly Ala Tyr Leu Val Ala His Ser Leu Met Ser Phe Glu Asp
                     965             970                 975
     Val Leu Leu Val Phe Ser Ala Val Val Phe Gly Ala Met Ala Val Gly
                 980             985             990
     Gln Val Ser Ser Phe Ala Pro Asp Tyr Ala Lys Ala Lys Val Ser Ala
40       995             1000            1005
     Ala His Ile Ile Met Ile Ile Glu Lys Thr Pro Leu Ile Asp Ser Tyr
         1010            1015            1020
     Ser Thr Glu Gly Leu Lys Pro Asn Thr Leu Glu Gly Asn Val Thr Phe
     1025            1030            1035            1040
45   Asn Glu Val Val Phe Asn Tyr Pro Thr Arg Leu Asp Ile Pro Val Leu
                     1045            1050            1055
     Gln Gly Leu Ser Leu Glu Val Lys Lys Gly Gln Thr Leu Ala Leu Val
                 1060            1065            1070
     Gly Ser Ser Gly Cys Gly Lys Ser Thr Val Val Gln Leu Leu Glu Arg
50       1075            1080            1085
     Phe Tyr Asp Pro Leu Ala Gly Lys Val Leu Leu Asp Gly Lys Glu Ile
         1090            1095            1100
     Lys Gln Leu Asn Val Gln Trp Leu Arg Ala His Leu Gly Ile Val Ser
     1105            1110            1115            1120
55   Gln Glu Pro Ile Leu Phe Asp Cys Ser Ile Ser Glu Asn Ile Ala Tyr
                     1125            1130            1135
     Gly Asp Asn Ser Arg Val Val Ser Gln Glu Glu Ile Val Arg Ala Ala
```

```
                   1140                1145                1150
     Lys Glu Ala Asn Ile His Ala Phe Ile Glu Ser Leu Pro Asn Lys Tyr
                   1155                1160                1165
     Ser Thr Arg Val Gly Asp Lys Gly Thr Gln Leu Ser Gly Gly Gln Lys
  5          1170                1175                1180
     Gln Arg Ile Ala Ile Ala Arg Ala Leu Val Arg Gln Pro His Ile Leu
     1185                1190                1195                1200
     Leu Leu Asp Glu Ala Thr Ser Ala Leu Asp Thr Glu Ser Glu Lys Val
                   1205                1210                1215
 10  Val Gln Glu Ala Leu Asp Lys Ala Arg Glu Gly Arg Thr Cys Ile Val
                   1220                1225                1230
     Ile Ala His Arg Leu Ser Thr Ile Gln Asn Ala Asp Leu Ile Val Val
                   1235                1240                1245
     Phe Gln Asn Gly Arg Val Lys Glu His Gly Thr His Gln Gln Leu Leu
 15          1250                1255                1260
     Ala Gln Lys Gly Ile Tyr Phe Ser Met Val Ser Val Gln Ala Gly Ala
     1265                1270                1275                1280
     Lys Arg Gln

 20
         <210> 5
         <211> 1280
         <212> PRT
         <213> Homo sapiens
 25
         <400> 5
     Met Asp Leu Glu Gly Asp Arg Asn Gly Gly Ala Lys Lys Lys Asn Phe
      1               5                  10                  15
     Phe Lys Leu Asn Asn Lys Ser Glu Lys Asp Lys Lys Glu Lys Lys Pro
 30              20                  25                  30
     Thr Val Ser Val Phe Ser Met Phe Arg Tyr Ser Asn Trp Leu Asp Lys
                 35                  40                  45
     Leu Tyr Met Val Val Gly Thr Leu Ala Ala Ile Ile His Gly Ala Gly
                 50                  55                  60
 35  Leu Pro Leu Met Met Leu Val Phe Gly Glu Met Thr Asp Ile Phe Ala
     65                  70                  75                  80
     Asn Ala Gly Asn Leu Glu Asp Leu Met Ser Asn Ile Thr Asn Arg Ser
                     85                  90                  95
     Asp Ile Asn Asp Thr Gly Phe Phe Met Asn Leu Glu Glu Asp Met Thr
 40              100                 105                 110
     Arg Tyr Ala Tyr Tyr Tyr Ser Gly Ile Gly Ala Gly Val Leu Val Ala
                 115                 120                 125
     Ala Tyr Ile Gln Val Ser Phe Trp Cys Leu Ala Ala Gly Arg Gln Ile
                 130                 135                 140
 45  His Lys Ile Arg Lys Gln Phe Phe His Ala Ile Met Arg Gln Glu Ile
     145                 150                 155                 160
     Gly Trp Phe Asp Val His Asp Val Gly Glu Leu Asn Thr Arg Leu Thr
                     165                 170                 175
     Asp Asp Val Ser Lys Ile Asn Glu Val Ile Gly Asp Lys Ile Gly Met
 50              180                 185                 190
     Phe Phe Gln Ser Met Ala Thr Phe Phe Thr Gly Phe Ile Val Gly Phe
                 195                 200                 205
     Thr Arg Gly Trp Lys Leu Thr Leu Val Ile Leu Ala Ile Ser Pro Val
                 210                 215                 220
 55  Leu Gly Leu Ser Ala Ala Val Trp Ala Lys Ile Leu Ser Ser Phe Thr
     225                 230                 235                 240
     Asp Lys Glu Leu Leu Ala Tyr Ala Lys Ala Gly Ala Val Ala Glu Glu
```

```
                    245                    250                    255
        Val Leu Ala Ala Ile Arg Thr Val Ile Ala Phe Gly Gly Gln Lys Lys
                    260                    265                    270
        Glu Leu Glu Arg Tyr Asn Lys Asn Leu Glu Glu Ala Lys Arg Ile Gly
  5                 275                    280                    285
        Ile Lys Lys Ala Ile Thr Ala Asn Ile Ser Ile Gly Ala Ala Phe Leu
                    290                    295                    300
        Leu Ile Tyr Ala Ser Tyr Ala Leu Ala Phe Trp Tyr Gly Thr Thr Leu
        305                    310                    315                    320
  10    Val Leu Ser Gly Glu Tyr Ser Ile Gly Gln Val Leu Thr Val Phe Phe
                    325                    330                    335
        Ser Val Leu Ile Gly Ala Phe Ser Val Gly Gln Ala Ser Pro Ser Ile
                    340                    345                    350
        Glu Ala Phe Ala Asn Ala Arg Gly Ala Ala Tyr Glu Ile Phe Lys Ile
  15                355                    360                    365
        Ile Asp Asn Lys Pro Ser Ile Asp Ser Tyr Ser Lys Ser Gly His Lys
                    370                    375                    380
        Pro Asp Asn Ile Lys Gly Asn Leu Glu Phe Arg Asn Val His Phe Ser
        385                    390                    395                    400
  20    Tyr Pro Ser Arg Lys Glu Val Lys Ile Leu Lys Gly Leu Asn Leu Lys
                    405                    410                    415
        Val Gln Ser Gly Gln Thr Val Ala Leu Val Gly Asn Ser Gly Cys Gly
                    420                    425                    430
        Lys Ser Thr Thr Val Gln Leu Met Gln Arg Leu Tyr Asp Pro Thr Glu
  25                435                    440                    445
        Gly Met Val Ser Val Asp Gly Gln Asp Ile Arg Thr Ile Asn Val Arg
                    450                    455                    460
        Phe Leu Arg Glu Ile Ile Gly Val Val Ser Gln Glu Pro Val Leu Phe
        465                    470                    475                    480
  30    Ala Thr Thr Ile Ala Glu Asn Ile Arg Tyr Gly Arg Glu Asn Val Thr
                    485                    490                    495
        Met Asp Glu Ile Glu Lys Ala Val Lys Glu Ala Asn Ala Tyr Asp Phe
                    500                    505                    510
        Ile Met Lys Leu Pro His Lys Phe Asp Thr Leu Val Gly Glu Arg Gly
  35                515                    520                    525
        Ala Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile Ala Arg Ala
                    530                    535                    540
        Leu Val Arg Asn Pro Lys Ile Leu Leu Leu Asp Glu Ala Thr Ser Ala
        545                    550                    555                    560
  40    Leu Asp Thr Glu Ser Glu Ala Val Val Gln Val Ala Leu Asp Lys Ala
                    565                    570                    575
        Arg Lys Gly Arg Thr Thr Ile Val Ile Ala His Arg Leu Ser Thr Val
                    580                    585                    590
        Arg Asn Ala Asp Val Ile Ala Gly Phe Asp Asp Gly Val Ile Val Glu
  45                595                    600                    605
        Lys Gly Asn His Asp Glu Leu Met Lys Glu Lys Gly Ile Tyr Phe Lys
                    610                    615                    620
        Leu Val Thr Met Gln Thr Ala Gly Asn Glu Val Glu Leu Glu Asn Ala
        625                    630                    635                    640
  50    Ala Asp Glu Ser Lys Ser Glu Ile Asp Ala Leu Glu Met Ser Ser Asn
                    645                    650                    655
        Asp Ser Arg Ser Ser Leu Ile Arg Lys Arg Ser Thr Arg Arg Ser Val
                    660                    665                    670
        Arg Gly Ser Gln Ala Gln Asp Arg Lys Leu Ser Thr Lys Glu Ala Leu
  55                675                    680                    685
        Asp Glu Ser Ile Pro Pro Val Ser Phe Trp Arg Ile Met Lys Leu Asn
                    690                    695                    700
```

```
    Leu Thr Glu Trp Pro Tyr Phe Val Val Gly Val Phe Cys Ala Ile Ile
    705                 710                 715                 720
    Asn Gly Gly Leu Gln Pro Ala Phe Ala Ile Ile Phe Ser Lys Ile Ile
                    725                 730                 735
5   Gly Val Phe Thr Arg Ile Asp Asp Pro Glu Thr Lys Arg Gln Asn Ser
                740                 745                 750
    Asn Leu Phe Ser Leu Leu Phe Leu Ala Leu Gly Ile Ile Ser Phe Ile
            755                 760                 765
    Thr Phe Phe Leu Gln Gly Phe Thr Phe Gly Lys Ala Gly Glu Ile Leu
10      770                 775                 780
    Thr Lys Arg Leu Arg Tyr Met Val Phe Arg Ser Met Leu Arg Gln Asp
    785                 790                 795                 800
    Val Ser Trp Phe Asp Asp Pro Lys Asn Thr Thr Gly Ala Leu Thr Thr
                805                 810                 815
15  Arg Leu Ala Asn Asp Ala Ala Gln Val Lys Gly Ala Ile Gly Ser Arg
                820                 825                 830
    Leu Ala Val Ile Thr Gln Asn Ile Ala Asn Leu Gly Thr Gly Ile Ile
            835                 840                 845
    Ile Ser Phe Ile Tyr Gly Trp Gln Leu Thr Leu Leu Leu Leu Ala Ile
20      850                 855                 860
    Val Pro Ile Ile Ala Ile Ala Gly Val Val Glu Met Lys Met Leu Ser
    865                 870                 875                 880
    Gly Gln Ala Leu Lys Asp Lys Lys Glu Leu Glu Gly Ala Gly Lys Ile
                885                 890                 895
25  Ala Thr Glu Ala Ile Glu Asn Phe Arg Thr Val Val Ser Leu Thr Gln
                900                 905                 910
    Glu Gln Lys Phe Glu His Met Tyr Ala Gln Ser Leu Gln Val Pro Tyr
            915                 920                 925
    Arg Asn Ser Leu Arg Lys Ala His Ile Phe Gly Ile Thr Phe Ser Phe
30      930                 935                 940
    Thr Gln Ala Met Met Tyr Phe Ser Tyr Ala Gly Cys Phe Arg Phe Gly
    945                 950                 955                 960
    Ala Tyr Leu Val Ala His Lys Leu Met Ser Phe Glu Asp Val Leu Leu
                965                 970                 975
35  Val Phe Ser Ala Val Val Phe Gly Ala Met Ala Val Gly Gln Val Ser
                980                 985                 990
    Ser Phe Ala Pro Asp Tyr Ala Lys Ala Lys Ile Ser Ala Ala His Ile
            995                 1000                1005
    Ile Met Ile Ile Glu Lys Thr Pro Leu Ile Asp Ser Tyr Ser Thr Glu
40      1010                1015                1020
    Gly Leu Met Pro Asn Thr Leu Glu Gly Asn Val Thr Phe Gly Glu Val
    1025                1030                1035                1040
    Val Phe Asn Tyr Pro Thr Arg Pro Asp Ile Pro Val Leu Gln Gly Leu
                1045                1050                1055
45  Ser Leu Glu Val Lys Lys Gly Gln Thr Leu Ala Leu Val Gly Ser Ser
                1060                1065                1070
    Gly Cys Gly Lys Ser Thr Val Val Gln Leu Leu Glu Arg Phe Tyr Asp
            1075                1080                1085
    Pro Leu Ala Gly Lys Val Leu Leu Asp Gly Lys Glu Ile Lys Arg Leu
50      1090                1095                1100
    Asn Val Gln Trp Leu Arg Ala His Leu Gly Ile Val Ser Gln Glu Pro
    1105                1110                1115                1120
    Ile Leu Phe Asp Cys Ser Ile Ala Glu Asn Ile Ala Tyr Gly Asp Asn
                1125                1130                1135
55  Ser Arg Val Val Ser Gln Glu Glu Ile Val Arg Ala Ala Lys Glu Ala
                1140                1145                1150
    Asn Ile His Ala Phe Ile Glu Ser Leu Pro Asn Lys Tyr Ser Thr Lys
```

```
        1155                    1160                    1165
      Val Gly Asp Lys Gly Thr Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile
        1170                    1175                    1180
      Ala Ile Ala Arg Ala Leu Val Arg Gln Pro His Ile Leu Leu Leu Asp
  5   1185                    1190                    1195                    1200
      Glu Ala Thr Ser Ala Leu Asp Thr Glu Ser Glu Lys Val Val Gln Glu
                        1205                    1210                    1215
      Ala Leu Asp Lys Ala Arg Glu Gly Arg Thr Cys Ile Val Ile Ala His
                    1220                    1225                    1230
 10   Arg Leu Ser Thr Ile Gln Asn Ala Asp Leu Ile Val Val Phe Gln Asn
                    1235                    1240                    1245
      Gly Arg Val Lys Glu His Gly Thr His Gln Gln Leu Leu Ala Gln Lys
                  1250                    1255                    1260
      Gly Ile Tyr Phe Ser Met Val Ser Val Gln Ala Gly Thr Lys Arg Gln
 15   1265                    1270                    1275                    1280


          <210> 6
          <211> 1279
          <212> PRT
 20       <213> Homo sapiens


          <400> 6
      Met Asp Leu Glu Gly Asp Arg Asn Gly Gly Ala Lys Lys Lys Asn Phe
        1                   5                   10                  15
 25   Phe Lys Leu Asn Asn Lys Ser Glu Lys Asp Lys Lys Glu Lys Lys Pro
                      20                  25                  30
      Thr Val Ser Val Phe Ser Met Phe Arg Tyr Ser Asn Trp Leu Asp Lys
                    35                  40                  45
      Leu Tyr Met Val Val Gly Thr Leu Ala Ala Ile Ile His Gly Ala Gly
 30       50                  55                  60
      Leu Pro Leu Met Met Leu Val Phe Gly Glu Met Thr Asp Ile Phe Ala
      65                  70                  75                  80
      Asn Ala Gly Asn Leu Glu Asp Leu Met Ser Asn Ile Thr Asn Arg Ser
                      85                  90                  95
 35   Asp Ile Asn Asp Thr Gly Phe Phe Met Asn Leu Glu Glu Asp Met Thr
                      100                 105                 110
      Arg Tyr Ala Tyr Tyr Tyr Ser Gly Ile Gly Ala Gly Val Leu Val Ala
                  115                 120                 125
      Ala Tyr Ile Gln Val Ser Phe Trp Cys Leu Ala Ala Gly Arg Gln Ile
 40       130                 135                 140
      His Lys Ile Arg Lys Gln Phe Phe His Ala Ile Met Arg Gln Glu Ile
      145                 150                 155                 160
      Gly Trp Phe Asp Val His Asp Val Gly Glu Leu Asn Thr Arg Leu Thr
                      165                 170                 175
 45   Asp Asp Val Ser Lys Ile Asn Glu Gly Ile Gly Asp Lys Ile Gly Met
                      180                 185                 190
      Phe Phe Gln Ser Met Ala Thr Phe Phe Thr Gly Phe Ile Val Gly Phe
                  195                 200                 205
      Thr Arg Gly Trp Lys Leu Thr Leu Val Ile Leu Ala Ile Ser Pro Val
 50       210                 215                 220
      Leu Gly Leu Ser Ala Ala Val Trp Ala Lys Ile Leu Ser Ser Phe Thr
      225                 230                 235                 240
      Asp Lys Glu Leu Leu Ala Tyr Ala Lys Ala Gly Ala Val Ala Glu Glu
                      245                 250                 255
 55   Val Leu Ala Ala Ile Arg Thr Val Ile Ala Phe Gly Gly Gln Lys Lys
                      260                 265                 270
      Glu Leu Glu Arg Tyr Asn Lys Asn Leu Glu Glu Ala Lys Arg Ile Gly
```

```
              275                    280                    285
    Ile Lys Lys Ala Ile Thr Ala Asn Ile Ser Ile Gly Ala Ala Phe Leu
        290                    295                    300
    Leu Ile Tyr Ala Ser Tyr Ala Leu Ala Phe Trp Tyr Gly Thr Thr Leu
 5  305                    310                    315                320
    Val Leu Ser Gly Glu Tyr Ser Ile Gly Gln Val Leu Thr Val Phe Ser
                325                    330                    335
    Val Leu Ile Gly Ala Phe Ser Val Gly Gln Ala Ser Pro Ser Ile Glu
                340                    345                    350
10  Ala Phe Ala Asn Ala Arg Gly Ala Ala Tyr Glu Ile Phe Lys Ile Ile
                355                    360                    365
    Asp Asn Lys Pro Ser Ile Asp Ser Tyr Ser Lys Ser Gly His Lys Pro
            370                    375                    380
    Asp Asn Ile Lys Gly Asn Leu Glu Phe Arg Asn Val His Phe Ser Tyr
15  385                    390                    395                400
    Pro Ser Arg Lys Glu Val Lys Ile Leu Lys Gly Leu Asn Leu Lys Val
                    405                    410                    415
    Gln Ser Gly Gln Thr Val Ala Leu Val Gly Asn Ser Gly Cys Gly Lys
            420                    425                    430
20  Ser Thr Thr Val Gln Leu Met Gln Arg Leu Tyr Asp Pro Thr Glu Gly
            435                    440                    445
    Met Val Ser Val Asp Gly Gln Asp Ile Arg Thr Ile Asn Val Arg Phe
        450                    455                    460
    Leu Arg Glu Ile Ile Gly Val Val Ser Gln Glu Pro Val Leu Phe Ala
25  465                    470                    475                480
    Thr Thr Ile Ala Glu Asn Ile Arg Tyr Gly Arg Glu Asn Val Thr Met
                    485                    490                    495
    Asp Glu Ile Glu Lys Ala Val Lys Glu Ala Asn Ala Tyr Asp Phe Ile
                500                    505                    510
30  Met Lys Leu Pro His Lys Phe Asp Thr Leu Val Gly Glu Arg Gly Ala
            515                    520                    525
    Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile Ala Arg Ala Leu
        530                    535                    540
    Val Arg Asn Pro Lys Ile Leu Leu Leu Asp Glu Ala Thr Ser Ala Leu
35  545                    550                    555                560
    Asp Thr Glu Ser Glu Ala Val Val Gln Val Ala Leu Asp Lys Ala Arg
                565                    570                    575
    Lys Gly Arg Thr Thr Ile Val Ile Ala His Arg Leu Ser Thr Val Arg
            580                    585                    590
40  Asn Ala Asp Val Ile Ala Gly Phe Asp Asp Gly Val Ile Val Glu Lys
            595                    600                    605
    Gly Asn His Asp Glu Leu Met Lys Glu Lys Gly Ile Tyr Phe Lys Leu
        610                    615                    620
    Val Thr Met Gln Thr Ala Gly Asn Glu Val Glu Leu Glu Asn Ala Ala
45  625                    630                    635                640
    Asp Glu Ser Lys Ser Glu Ile Asp Ala Leu Glu Met Ser Ser Asn Asp
                645                    650                    655
    Ser Arg Ser Ser Leu Ile Arg Lys Arg Ser Thr Arg Arg Ser Val Arg
            660                    665                    670
50  Gly Ser Gln Ala Gln Asp Arg Lys Leu Ser Thr Lys Glu Ala Leu Asp
        675                    680                    685
    Glu Ser Ile Pro Pro Val Ser Phe Trp Arg Ile Met Lys Leu Asn Leu
            690                    695                    700
    Thr Glu Trp Pro Tyr Phe Val Val Gly Val Phe Cys Ala Ile Ile Asn
55  705                    710                    715                720
    Gly Gly Leu Gln Pro Ala Phe Ala Ile Ile Phe Ser Lys Ile Ile Gly
                725                    730                    735
```

```
        Val Phe Thr Arg Ile Asp Asp Pro Glu Thr Lys Arg Gln Asn Ser Asn
                    740                 745                 750
        Leu Phe Ser Leu Leu Phe Leu Ala Leu Gly Ile Ile Ser Phe Ile Thr
                    755                 760                 765
  5     Phe Phe Leu Gln Gly Phe Thr Phe Gly Lys Ala Gly Glu Ile Leu Thr
                    770                 775                 780
        Lys Arg Leu Arg Tyr Met Val Phe Arg Ser Met Leu Arg Gln Asp Val
        785                 790                 795                 800
        Ser Trp Phe Asp Asp Pro Lys Asn Thr Thr Gly Ala Leu Thr Thr Arg
  10                    805                 810                 815
        Leu Ala Asn Asp Ala Ala Gln Val Lys Gly Ala Ile Gly Ser Arg Leu
                    820                 825                 830
        Ala Val Ile Thr Gln Asn Ile Ala Asn Leu Gly Thr Gly Ile Ile Ile
                    835                 840                 845
  15    Ser Phe Ile Tyr Gly Trp Gln Leu Thr Leu Leu Leu Ala Ile Val
                    850                 855                 860
        Pro Ile Ile Ala Ile Ala Gly Val Val Glu Met Lys Met Leu Ser Gly
        865                 870                 875                 880
        Gln Ala Leu Lys Asp Lys Lys Glu Leu Glu Gly Ala Gly Lys Ile Ala
  20                    885                 890                 895
        Thr Glu Ala Ile Glu Asn Phe Arg Thr Val Val Ser Leu Thr Gln Glu
                    900                 905                 910
        Gln Lys Phe Glu His Met Tyr Ala Gln Ser Leu Gln Val Pro Tyr Arg
                    915                 920                 925
  25    Asn Ser Leu Arg Lys Ala His Ile Phe Gly Ile Thr Phe Ser Phe Thr
                    930                 935                 940
        Gln Ala Met Met Tyr Phe Ser Tyr Ala Gly Cys Phe Arg Phe Gly Ala
        945                 950                 955                 960
        Tyr Leu Val Ala His Lys Leu Met Ser Phe Glu Asp Val Leu Leu Val
  30                    965                 970                 975
        Phe Ser Ala Val Val Phe Gly Ala Met Ala Val Gly Gln Val Ser Ser
                    980                 985                 990
        Phe Ala Pro Asp Tyr Ala Lys Ala Lys Ile Ser Ala Ala His Ile Ile
                    995                 1000                1005
  35    Met Ile Ile Glu Lys Thr Pro Leu Ile Asp Ser Tyr Ser Thr Glu Gly
                    1010                1015                1020
        Leu Met Pro Asn Thr Leu Glu Gly Asn Val Thr Phe Gly Glu Val Val
        1025                1030                1035                1040
        Phe Asn Tyr Pro Thr Arg Pro Asp Ile Pro Val Leu Gln Gly Leu Ser
  40                    1045                1050                1055
        Leu Glu Val Lys Lys Gly Gln Thr Leu Ala Leu Val Gly Ser Ser Gly
                    1060                1065                1070
        Cys Gly Lys Ser Thr Val Val Gln Leu Leu Glu Arg Phe Tyr Asp Pro
                    1075                1080                1085
  45    Leu Ala Gly Lys Val Leu Leu Asp Gly Lys Glu Ile Lys Arg Leu Asn
                    1090                1095                1100
        Val Gln Trp Leu Arg Ala His Leu Gly Ile Val Ser Gln Glu Pro Ile
        1105                1110                1115                1120
        Leu Phe Asp Cys Ser Ile Ala Glu Asn Ile Ala Tyr Gly Asp Asn Ser
  50                    1125                1130                1135
        Arg Val Val Ser Gln Glu Glu Ile Val Arg Ala Ala Lys Glu Ala Asn
                    1140                1145                1150
        Ile His Ala Phe Ile Glu Ser Leu Pro Asn Lys Tyr Ser Thr Lys Val
                    1155                1160                1165
  55    Gly Asp Lys Gly Thr Gln Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala
                    1170                1175                1180
        Ile Ala Arg Ala Leu Val Arg Gln Pro His Ile Leu Leu Leu Asp Glu
```

```
      1185                 1190                1195                  1200
      Ala Thr Ser Ala Leu Asp Thr Glu Ser Glu Lys Val Val Gln Glu Ala
                      1205                 1210                 1215
      Leu Asp Lys Ala Arg Glu Gly Arg Thr Cys Ile Val Ile Ala His Arg
                      1220                 1225                 1230
      Leu Ser Thr Ile Gln Asn Ala Asp Leu Ile Val Val Phe Gln Asn Gly
              1235                 1240                 1245
      Arg Val Lys Glu His Gly Thr His Gln Gln Leu Leu Ala Gln Lys Gly
              1250                 1255                 1260
      Ile Tyr Phe Ser Met Val Ser Val Gln Ala Gly Thr Lys Arg Gln
      1265                 1270                 1275
```

<210> 7
<211> 1280
<212> PRT
<213> Canis familiaris

<400> 7
```
      Met Asp Pro Glu Gly Gly Arg Lys Gly Ser Ala Glu Lys Asn Phe Trp
      1                   5                   10                  15
      Lys Met Gly Lys Lys Ser Lys Lys Glu Lys Lys Glu Lys Lys Pro Thr
                      20                  25                  30
      Val Ser Thr Phe Ala Met Phe Arg Tyr Ser Asn Trp Leu Asp Arg Leu
              35                  40                  45
      Tyr Met Leu Val Gly Thr Met Ala Ala Ile Ile His Gly Ala Ala Leu
              50                  55                  60
      Pro Leu Met Met Leu Val Phe Gly Asn Met Thr Asp Ser Phe Ala Asn
      65                  70                  75                  80
      Ala Gly Ile Ser Arg Asn Lys Thr Phe Pro Val Ile Ile Asn Glu Ser
                      85                  90                  95
      Ile Thr Asn Asn Thr Gln His Phe Ile Asn His Leu Glu Glu Glu Met
                      100                 105                 110
      Thr Thr Tyr Ala Tyr Tyr Tyr Ser Gly Ile Gly Ala Gly Val Leu Val
              115                 120                 125
      Ala Ala Tyr Ile Gln Val Ser Phe Trp Cys Leu Ala Ala Gly Arg Gln
              130                 135                 140
      Ile Leu Lys Ile Arg Lys Gln Phe Phe His Ala Ile Met Arg Gln Glu
      145                 150                 155                 160
      Ile Gly Trp Phe Asp Val His Asp Val Gly Glu Leu Asn Thr Arg Leu
                      165                 170                 175
      Thr Asp Asp Val Ser Lys Ile Asn Glu Gly Ile Gly Asp Lys Val Gly
                      180                 185                 190
      Met Phe Phe Gln Ser Ile Ala Thr Phe Phe Thr Gly Phe Ile Val Gly
              195                 200                 205
      Phe Thr Pro Gly Trp Lys Leu Thr Leu Val Ile Leu Ala Ile Ser Pro
              210                 215                 220
      Val Leu Gly Leu Ser Ala Ala Ile Trp Ala Lys Ile Leu Ser Ser Phe
      225                 230                 235                 240
      Thr Asp Lys Glu Leu Leu Ala Tyr Ala Lys Ala Gly Ala Val Ala Glu
                      245                 250                 255
      Glu Val Leu Ala Ala Ile Arg Thr Val Ile Ala Phe Gly Gly Gln Lys
                      260                 265                 270
      Lys Glu Leu Glu Arg Tyr Asn Lys Asn Leu Glu Glu Ala Lys Arg Ile
              275                 280                 285
      Gly Ile Lys Lys Ala Ile Thr Ala Asn Ile Ser Ile Gly Ala Ala Phe
              290                 295                 300
      Leu Leu Ile Tyr Ala Ser Tyr Ala Leu Ala Phe Trp Tyr Gly Thr Ser
```

```
     305                   310                   315                   320
     Leu Val Leu Ser Ser Glu Tyr Thr Ile Gly Gln Val Leu Thr Val Phe
                     325                   330                   335
     Phe Ser Val Leu Ile Gly Ala Phe Ser Ile Gly Gln Ala Ser Pro Ser
  5                  340                   345                   350
     Ile Glu Ala Phe Ala Asn Ala Arg Gly Ala Ala Tyr Glu Ile Phe Lys
                 355                   360                   365
     Ile Ile Asp Asn Lys Pro Ser Ile Asp Ser Tyr Ser Lys Ser Gly His
                 370                   375                   380
 10  Lys Pro Asp Asn Ile Lys Gly Asn Leu Glu Phe Lys Asn Val His Phe
     385                   390                   395                   400
     Ser Tyr Pro Ser Arg Lys Glu Val Lys Ile Leu Lys Gly Leu Asn Leu
                     405                   410                   415
     Lys Val Gln Ser Gly Gln Thr Val Ala Leu Val Gly Asn Ser Gly Cys
 15                  420                   425                   430
     Gly Lys Ser Thr Thr Val Gln Leu Met Gln Arg Leu Tyr Asp Pro Thr
                 435                   440                   445
     Asp Gly Met Val Cys Ile Asp Gly Gln Asp Ile Arg Thr Ile Asn Val
                 450                   455                   460
 20  Arg His Leu Arg Glu Ile Thr Gly Val Val Ser Gln Glu Pro Val Leu
     465                   470                   475                   480
     Phe Ala Thr Thr Ile Ala Glu Asn Ile Arg Tyr Gly Arg Glu Asn Val
                     485                   490                   495
     Thr Met Asp Glu Ile Glu Lys Ala Val Lys Glu Ala Asn Ala Tyr Asp
 25                  500                   505                   510
     Phe Ile Met Lys Leu Pro Asn Lys Phe Asp Thr Leu Val Gly Glu Arg
                 515                   520                   525
     Gly Ala Arg Leu Ser Gly Gly Gln Lys Gln Arg Ile Ala Ile Ala Arg
                 530                   535                   540
 30  Ala Leu Val Arg Asn Pro Lys Ile Leu Leu Leu Asp Glu Ala Thr Ser
     545                   550                   555                   560
     Ala Leu Asp Thr Glu Ser Glu Ala Val Val Gln Val Ala Leu Asp Lys
                     565                   570                   575
     Ala Arg Lys Gly Arg Thr Thr Ile Val Ile Ala His Arg Leu Ser Thr
 35                  580                   585                   590
     Val Arg Asn Ala Asp Val Ile Ala Gly Phe Asp Asp Gly Val Ile Val
                 595                   600                   605
     Glu Lys Gly Asn His Asp Glu Leu Met Lys Glu Lys Gly Ile Tyr Phe
                 610                   615                   620
 40  Lys Leu Val Thr Met Gln Thr Arg Gly Asn Glu Ile Glu Leu Glu Asn
     625                   630                   635                   640
     Ala Thr Gly Glu Ser Lys Ser Glu Ser Asp Ala Leu Glu Met Ser Pro
                     645                   650                   655
     Lys Asp Ser Gly Ser Ser Leu Ile Lys Arg Arg Ser Thr Arg Arg Ser
 45                  660                   665                   670
     Ile His Ala Pro Gln Gly Gln Asp Arg Lys Leu Gly Thr Lys Glu Asp
                 675                   680                   685
     Leu Asn Glu Asn Val Pro Ser Val Ser Phe Trp Arg Ile Leu Lys Leu
                 690                   695                   700
 50  Asn Ser Thr Glu Trp Pro Tyr Phe Val Val Gly Ile Phe Cys Ala Ile
     705                   710                   715                   720
     Ile Asn Gly Gly Leu Gln Pro Ala Phe Ser Ile Ile Phe Ser Arg Ile
                     725                   730                   735
     Ile Gly Ile Phe Thr Arg Asp Glu Asp Pro Glu Thr Lys Arg Gln Asn
 55                  740                   745                   750
     Ser Asn Met Phe Ser Val Leu Phe Leu Val Leu Gly Ile Ile Ser Phe
                 755                   760                   765
```

```
      Ile Thr Phe Phe Leu Gln Gly Phe Thr Phe Gly Lys Ala Gly Glu Ile
      770               775               780
      Leu Thr Lys Arg Leu Arg Tyr Met Val Phe Arg Ser Met Leu Arg Gln
      785           790               795               800
  5   Asp Val Ser Trp Phe Asp Asp Pro Lys Asn Thr Thr Gly Ala Leu Thr
                  805               810               815
      Thr Arg Leu Ala Asn Asp Ala Ala Gln Val Lys Gly Ala Ile Gly Ser
              820               825               830
      Arg Leu Ala Val Ile Thr Gln Asn Ile Ala Asn Leu Gly Thr Gly Ile
 10           835               840               845
      Ile Ile Ser Leu Ile Tyr Gly Trp Gln Leu Thr Leu Leu Leu Leu Ala
              850               855               860
      Ile Val Pro Ile Ile Ala Ile Ala Gly Val Val Glu Met Lys Met Leu
      865               870               875               880
 15   Ser Gly Gln Ala Leu Lys Asp Lys Lys Glu Leu Glu Gly Ala Gly Lys
                  885               890               895
      Ile Ala Thr Glu Ala Ile Glu Asn Phe Arg Thr Val Val Ser Leu Thr
              900               905               910
      Arg Glu Gln Lys Phe Glu Tyr Met Tyr Ala Gln Ser Leu Gln Val Pro
 20           915               920               925
      Tyr Arg Asn Ser Leu Arg Lys Ala His Ile Phe Gly Val Ser Phe Ser
          930               935               940
      Ile Thr Gln Ala Met Met Tyr Phe Ser Tyr Ala Gly Cys Phe Arg Phe
      945               950               955               960
 25   Gly Ala Tyr Leu Val Ala Asn Glu Phe Met Asn Phe Gln Asp Val Leu
                  965               970               975
      Leu Val Phe Ser Ala Ile Val Phe Gly Ala Met Ala Val Gly Gln Val
                  980               985               990
      Ser Ser Phe Ala Pro Asp Tyr Ala Lys Ala Lys Val Ser Ala Ala His
 30           995               1000              1005
      Val Ile Met Ile Ile Glu Lys Ser Pro Leu Ile Asp Ser Tyr Ser Pro
          1010              1015              1020
      His Gly Leu Lys Pro Asn Thr Leu Glu Gly Asn Val Thr Phe Asn Glu
      1025              1030              1035              1040
 35   Val Val Phe Asn Tyr Pro Thr Arg Pro Asp Ile Pro Val Leu Gln Gly
                  1045              1050              1055
      Leu Ser Leu Glu Val Lys Lys Gly Gln Thr Leu Ala Leu Val Gly Ser
                  1060              1065              1070
      Ser Gly Cys Gly Lys Ser Thr Val Val Gln Leu Leu Glu Arg Phe Tyr
 40           1075              1080              1085
      Asp Pro Leu Ala Gly Ser Val Leu Ile Asp Gly Lys Glu Ile Lys His
          1090              1095              1100
      Leu Asn Val Gln Trp Leu Arg Ala His Leu Gly Ile Val Ser Gln Glu
      1105              1110              1115              1120
 45   Pro Ile Leu Phe Asp Cys Ser Ile Ala Glu Asn Ile Ala Tyr Gly Asp
                  1125              1130              1135
      Asn Ser Arg Val Val Ser His Glu Glu Ile Met Gln Ala Ala Lys Glu
              1140              1145              1150
      Ala Asn Ile His His Phe Ile Glu Thr Leu Pro Glu Lys Tyr Asn Thr
 50           1155              1160              1165
      Arg Val Gly Asp Lys Gly Thr Gln Leu Ser Gly Gly Gln Lys Gln Arg
          1170              1175              1180
      Ile Ala Ile Ala Arg Ala Leu Val Arg Gln Pro His Ile Leu Leu Leu
      1185              1190              1195              1200
 55   Asp Glu Ala Thr Ser Ala Leu Asp Thr Glu Ser Glu Lys Val Val Gln
                  1205              1210              1215
      Glu Ala Leu Asp Lys Ala Arg Glu Gly Arg Thr Cys Ile Val Ile Ala
```

```
                    1220                    1225                    1230
        His Arg Leu Ser Thr Ile Gln Asn Ala Asp Leu Ile Val Val Phe Gln
                1235                    1240                    1245
        Asn Gly Lys Val Lys Glu His Gly Thr His Gln Gln Leu Leu Ala Gln
  5             1250                    1255                    1260
        Lys Gly Ile Tyr Phe Ser Met Ile Ser Val Gln Ala Gly Ala Lys Arg
        1265                    1270                    1275                    1280


            <210> 8
 10         <211> 368
            <212> PRT
            <213> Canis familiaris


            <400> 8
 15     Thr Ser Ala Leu Asp Thr Glu Ser Glu Ala Val Val Gln Val Ala Leu
        1                   5                   10                  15
        Asp Lys Ala Arg Lys Gly Arg Thr Thr Ile Val Ile Ala His Arg Leu
                20                      25                      30
        Ser Thr Val Arg Asn Ala Asp Val Ile Ala Gly Phe Asp Asp Gly Val
 20             35                      40                      45
        Ile Val Glu Lys Gly Asn His Asp Glu Leu Met Lys Glu Lys Gly Ile
                50                      55                      60
        Tyr Phe Lys Leu Val Thr Met Gln Thr Arg Gly Asn Glu Ile Asp Leu
        65                      70                      75                      80
 25     Glu Asn Ala Thr Gly Glu Ser Lys Ser Glu Ser Asp Ala Leu Glu Met
                        85                      90                      95
        Ser Pro Lys Asp Ser Gly Ser Ser Leu Ile Lys Arg Arg Ser Thr Arg
                    100                     105                     110
        Arg Ser Ile His Ala Pro Gln Gly Gln Asp Arg Lys Leu Gly Thr Lys
 30                 115                     120                     125
        Glu Asp Leu Asn Glu Asn Val Pro Pro Val Ser Phe Trp Arg Ile Leu
                    130                     135                     140
        Lys Leu Asn Ser Thr Glu Trp Pro Tyr Phe Val Val Gly Ile Phe Cys
        145                     150                     155                     160
 35     Ala Ile Ile Asn Gly Gly Leu Gln Pro Ala Phe Ser Ile Ile Phe Ser
                        165                     170                     175
        Arg Ile Ile Gly Ile Phe Thr Arg Asp Glu Asp Pro Glu Thr Lys Arg
                    180                     185                     190
        Gln Ile Ser Asn Met Phe Ser Val Leu Phe Leu Val Leu Gly Ile Ile
 40                 195                     200                     205
        Ser Phe Ile Thr Phe Phe Leu Gln Gly Phe Thr Phe Gly Lys Ala Gly
                    210                     215                     220
        Glu Ile Leu Thr Lys Arg Leu Arg Tyr Met Val Phe Arg Ser Met Leu
        225                     230                     235                     240
 45     Arg Gln Asp Val Ser Trp Phe Asp Asp Leu Lys Asn Thr Thr Gly Ala
                        245                     250                     255
        Leu Thr Thr Arg Leu Ala Asn Asp Ala Ala Gln Val Lys Gly Ala Ile
                    260                     265                     270
        Gly Ser Arg Leu Ala Val Ile Thr Gln Asn Ile Ala Asn Leu Gly Thr
 50                 275                     280                     285
        Gly Ile Ile Ile Ser Leu Ile Tyr Gly Trp Gln Leu Thr Leu Leu Leu
                    290                     295                     300
        Leu Ala Ile Val Pro Ile Ile Ala Ile Ala Gly Val Val Glu Met Lys
        305                     310                     315                     320
 55     Met Leu Ser Gly Gln Ala Leu Lys Asp Lys Lys Glu Leu Glu Gly Ala
                        325                     330                     335
        Gly Lys Ile Ala Thr Glu Ala Ile Glu Asn Phe Arg Thr Val Val Ser
```

```
              340                345                350
    Leu Thr Gln Glu Gln Lys Phe Glu His Met Tyr Ala Gln Ser Leu Gln
              355                360                365
```

5   `<210> 9`
         `<211> 27`
         `<212> DNA`
         `<213> Homo sapiens`

10   `<400> 9`
         `ctggacttcc tctcatgatg ctggtgt`   27

         `<210> 10`
         `<211> 28`
15   `<212> DNA`
         `<213> Homo sapiens`

         `<400> 10`
         `gacagctatt cgaagagtgg gcacaaac`   28
20

         `<210> 11`
         `<211> 24`
         `<212> DNA`
         `<213> Homo sapiens`
25

         `<400> 11`
         `ggccatggca ccaaagacaa cagc`   24

         `<210> 12`
30   `<211> 23`
         `<212> DNA`
         `<213> Macaca fascicularis`

         `<400> 12`
35   `ttggacacag aaagtgaagc agt`   23

         `<210> 13`
         `<211> 20`
         `<212> DNA`
40   `<213> Macaca fascicularis`

         `<400> 13`
         `ctgagcatgg atcggaaaac`   20

45   `<210> 14`
         `<211> 28`
         `<212> DNA`
         `<213> Artificial Sequence`

50   `<220>`
         `<223> Synthetic oligonucleotide`

         `<400> 14`
         `ttgtaatacg actcactata gggcgaat`   28
55

         `<210> 15`
         `<211> 28`

```
            <212> DNA
            <213> Artificial Sequence

            <220>
 -5         <223> Synthetic oligonucleotide based on Macaca fascicularis
                  and Homo sapiens

            <400> 15
      cttttcgaga tgggtaactg aagtgaac                                        28
10
            <210> 16
            <211> 28
            <212> DNA
            <213> Artificial Sequence
15
            <220>
            <223> Synthetic oligonucleotide based on Macaca fascicularis
                  and Homo sapiens

20          <400> 16
      agaaggtgct gggaagatcg ctactgaa                                        28

            <210> 17
            <211> 18
25          <212> DNA
            <213> Macaca fascicularis

            <400> 17
      gcctaaagcc gaacacat                                                   18
30
            <210> 18
            <211> 21
            <212> DNA
            <213> Macaca fascicularis
35
            <400> 18
      ctattaagtc tgcattctgg a                                              21
```